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MONTHLY REPORT

OF

THE AGRICULTURAL DEPARTMENT.

JUNE, 1866.

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MONTHLY REPORT.

DEPARTMENT OF AGRICULTURE, *June*, 1866.

The condition of the crops, always a consideration of vital importance between seed-time and harvest, has excited more attention this season than for many years. Apprehensions arose, not without some cause, that scarcity of breadstuffs might follow the winter-killing of the cereals which was reported very generally throughout the country. In some portions of the central wheat-growing States an almost entire failure seemed inevitable.

I am happy to be able to say that apprehensions of scarcity, which might threaten compulsory economy of consumption, or warrant extraordinary prices, are groundless. With the stock of wheat on hand, and the substitution of corn and buckwheat for wheat, which always attends highly remunerative prices of flour, there is a present prospect for an ample supply for all our wants, and enough to spare to send to Europe twice the amount of the paltry exports of breadstuffs of the last year.

From a careful analysis of statistical returns, with due regard to the usual average product and present losses of each State, the prospect on the first of June was for seven-tenths of a crop. With favorable weather, and absence from casualties before harvesting, the indications point to three-fourths of an ave rage total yield of wheat.

Indiana seems to have suffered most from winter-killing. Appearance, thirty-four per cent. Ohio, 4-tenths. But Indiana has 4-tenths more spring wheat than usual, and Ohio 2½-tenths. This should give each, of spring and winter wheat together, a total of 5-tenths. Illinois promises three-fourths of a crop, though the appearance of winter wheat was 7-tenths. Wisconsin, the appearance of winter wheat 6½-tenths, a prospect for at least three-fourths of a crop. Iowa, in view of the breadth of spring wheat, should give a full crop. Kansas will have 15-tenths of an ordinary crop. Missouri and Minnesota will have more than an average. The district west of the Mississippi, taken together, promises decidedly more than an average. New York, New Jersey, and Pennsylvania each indicate 8-tenths of a crop. In New England the injury to winter wheat was less than 1-tenth in New Hampshire, 24 per cent. in Maine, 1-tenth in Massachusetts, and 3-tenths in Vermont and Connecticut. But these States produce little winter wheat. All but Massachusetts put in an average breadth of spring wheat.

Most of the other crops look well. For particulars I refer the reader to the body of the report.

A very interesting and valuable series of tables is given this month, showing the average yield of the principal farm products per acre for four years past, and the average cash value of the same for each of the four years, and for the whole period.

A comparison of the farm stock of the United States and of the countries of Europe, from official and other reliable data, shows that no country equals this in numbers of cattle or sheep, and especially of swine, either in proportion to population, or in totals exhibited.

Our depreciation in farm stock since 1860 is estimated at ten per cent. for horses, twenty per cent. for mules, seven per cent. for cattle, and twenty per cent. for swine. The numbers of sheep have doubled in the northern States in the same period.

The following is the order of the nations named in proportion of population to cattle supply: United States, 1.2 people to each head of cattle; Denmark, 1.4; Bavaria, 1.5; Sweden, 2; Hanover, 2.2; Austria, 2.5; France, 2.6; Holland, 2.7; Russia, 2.9; Prussia, 3.2; Great Britain, 3.5; Belgium, 3.6; Spain, 5.3.

A brief synopsis is made from a translation of original official reports of experiments in vaccination for rinderpest, received from the Russian minister, tending to throw light upon the character and peculiarities of the disease.

Among the statistical expositions will be found an analysis of the statistics of cotton culture in the principal cotton-growing States, with a location and brief description of the best cotton soils.

A notice of the Brazilian exhibition at Rio de Janeiro is from data furnished by the Brazilian minister of state.

A change has occurred in the conduct of the statistical division, the head of which is *ex officio* editor of the reports. J. R. Dodge, heretofore occupying a responsible position in this department, was last month appointed statistician, in place of Lewis Bollman, resigned.

ISAAC NEWTON, *Commissioner.*

THE BEST COTTON SECTIONS.—NO. 1

MISSISSIPPI.

Mississippi is the central State of the cotton belt. It probably has a somewhat larger proportion of good cotton lands than any other. Alabama will come next in order. In 1850 the latter State stood first in production, yielding 564,429 bales. Georgia held the second rank, with 499,091 bales; while Mississippi followed, with 484,292 bales. In ten years the third became first, distancing by a long stride all competition, and throwing upon the market 1,202,507 bales, thus contributing almost one-fourth of the cotton crop of the United States, at a period when the aggregate was more than double the quantity produced in 1850.

These figures indicate natural advantages, which attracted immigration and stimulated enterprise, aside from the accident of centrality, which naturally tended to arrest the steps of the westward-going emigrant. But it is not necessary to rely upon theory or speculation. Much of the northern and all of the western portion of the State north of Vicksburg is alluvion. The broad and practically bottomless Mississippi bottoms, between the great river and the Yazoo, have scarcely one-fourth of their area open to cultivation. Hundreds of thousands of acres of the best lands of America are here found still in the wilderness. Here was the widest portion of the inland sea which once occupied the lower valley of the Mississippi. Its exceeding fatness is Nile-like, without the aridity of Egypt. Its soil resembles in fineness the ocean's bed, and is enriched by the opulence of the sea and the munificence of the land in the dead organisms of former prolific and vigorous life, which furnish in abundance the lime and potash and other elements which cotton requires.

The Yazoo, the Big Black, and the Tombigbee furnish scarcely inferior cotton lands; and the uplands of Hinds, Madison, and Warren counties—the "rotten limestone" section of the State—are unsurpassed for cotton lands of this grade, and unequalled, except by the canebrake lands of central Alabama.

Other States boast sections of equal fertility, as the river lands of Louisiana and Arkansas, especially a wide area on Red river, and the lands of central Alabama and portions of Texas; but for extent of acreage of superior soil, in proportion to total area, Mississippi must be accorded the position as the Illinois of the southwest. Yet there is much sandy and comparatively poor soil in the southern and southeastern sections of the State.

As an evidence of the fertility of the Mississippi bottoms, some facts, as elicited by the last census, may be given concerning Issaquena county, lying north of Vicksburg. Throughout the south, it should be noted, the amount of acreage of improved lands in farms, compared with the products of such county, affords little criterion for an accurate estimate of comparative fertility. There may be a hundred thousand acres improved, yet less than half actually in cultivation in any one year. Year by year patches, sections of fields, neglected, half cultivated, or abandoned, grow up in broom sedge or pines, or other wild but vigorous growths. But there are certain sections of cotton country, practically inexhaustible in fertility and convenient of access, that rarely lie fallow. Issaquena affords a fine illustration. With only 56,596 acres improved, it yielded 41,170 bales of cotton, besides corn and other products. Yazoo, a rich county, boasting more cotton than any other in the State, had 179,288 acres, and produced 64,679 bales.

An examination of the statistics of Issaquena will afford practical data for calculation of the amount of stock, implements, and labor necessary for cotton-planting, after making proper allowances for changes in the status of labor, in implements, &c. At least it will greatly assist in such calculation.

Nearly two-thirds of the farm land is unimproved, and yet the average assessed valuation is $39 per acre.

The white population, 587; colored, 7,244; slaveholders, 115.

Number of horses, 554; mules, 2,082; working oxen, 1,229; cows, 1,516; other cattle, 3,604; sheep, 1,436; swine, 6,615.

Number of plantations, 104, averaging 544 acres improved and 1,043 unimproved, with 69 slaves upon each.

Investment in implements, (average,) $1,376; in live stock, $4,204, including 20 mules, 5 horses, 6 pairs of working oxen.

Products, 41,170 bales of cotton; 398,500 bushels of corn; 1,420 bushels of oats; 1,800 bushels of beans and peas, potatoes, &c. This is $5\frac{2}{3}$ bales for every colored man, woman, and child, or, if children are in usual proportion, at least 10 bales to each working hand, and still more possibly for each worker exclusive of house servants. It is 20 bales to each mule; 395 bales to each plantation. For each bale (compared with investments) $10 64 is required in live stock, and $3 45 in farm implements.

A fair indication of the best cotton districts is afforded by a presentation of the counties in the several States making the greatest yield of cotton. Let the reader trace upon the map the sections of Mississippi here presented:

Counties.	Improved acres.	Bales cotton.	Bushels corn.
Yazoo	179,288	64,675	956,220
Hinds	190,599	54,685	1,028,343
Madison	239,788	51,327	1,194,540
Lowndes	167,373	51,234	1,157,271
Noxubee	162,835	50,096	1,286,085
Marshall	214,939	49,348	1,068,350
Monroe	153,699	46,385	1,145,499
Holmes	136,992	41,840	845,724
Issaquena	56,596	41,170	398,500
De Soto	174,952	40,113	834,165

These figures serve to illustrate the suggestions above relative to the superior cotton lands of the State. The plantations of the State average 370 acres, of which 117 are improved. They are 42,840 in number, about 12,000 cultivated by white labor, as the number of slaveholders is placed at 30,943. The average price of land is $12 04 per acre, or $4,454 for each plantation; $10\frac{1}{2}$ slaves (old and young;) $5\frac{1}{2}$ horses and mules; $206 in farm implements; $977 in live stock; 28 bales of cotton, (five or six to each field hand;) 677 bushels of corn; $13\frac{3}{4}$ bushels of wheat. The great number of small farmers in each State greatly reduces the averages, and makes the large and well-managed plantations appear to disadvantage, just as averages in wheat-growing States show 12 bushels per acre, where good farmers would be ashamed to grow less than 25 bushels; so the average of cotton is scarcely more than one-half bale to the acre, when good land, with good culture, and exemption from insects, will easily secure a bale, and in extreme cases a bale and a half, and even two bales. These are the facts which sensible men unacquainted with cotton can judiciously use as safe elements in a calculation of the economy of cotton-planting.

In the next number a similar analysis will be given of the cotton statistics of Alabama and Louisiana, respectively, with a brief reference to the location and character of the best cotton soils in those States.

EXHIBITION AT RIO DE JANEIRO.

There has been received at this department, through the Department of State, a communication from the counsellor Azambuja, minister of Brazil, relative to a "national exhibition of the husbandry and industrial products of the country," at Rio de Janeiro, on the 19th of October of the present year.

He states that the imperial government "thinks it advisable to connect with this a special exhibition of machines and their furnishings, and instruments, manufactured in foreign countries, intended for the cultivation, preparation, and improvement of agricultural productions."

He leaves it with the Secretary of State to invite official attention to the subject, if he deems it proper.

From the accompanying regulations and instructions of the managers of the exhibition, it appears that machinery and implements from abroad will be admitted, and must be inscribed "foreign," with the name of the manufacturer, inventor, and cost of each. They may be exhibited and worked by the exhibitors, but cannot compete for the premium. The necessary space and steam-power will be furnished free, but no machinery requiring foundations or special constructions will be admitted. Transportation will be paid by exhibitors. No machinery can be removed without special permission. After the exhibition is over, the goods may be sold, in which case they will be subject to a duty of one and a half per cent. *ad valorem*, but if re-exported, they are free of duty. Passes are furnished free to exhibitors.

All persons wishing to participate in this exhibition "will give due notice of such intentions to the Brazilian minister, (in New York,) with full particulars of their machines."

The empire of Brazil is a field which our manufacturers of agricultural implements cannot afford to neglect to cultivate. It is to be hoped that they may arrange to extend the fame of their goods, and thus add to their business and their profits in this promising direction.

RUSSIAN OFFICIAL EXPERIMENTS IN VACCINATION FOR RINDERPEST

The Department of Agriculture is in receipt of a report of experiments made by a committee oppointed by the Russian secretary of the interior, at Bondarewka and Salmysche, relative to the protection afforded to cattle by vaccination for rinderpest. It was communicated by the Russian minister, through the Department of State.

Experiments of a similar character were initiated, in accordance with the suggestion of Professor Jessen of Dorpat, in 1852, with results so various and indefinite that the government determined further and more thoroughly to test the virtues of vaccination. Accordingly an appropriation was made of ten thousand roubles annually, for three years, and a committee appointed, on which was Professors Jessen, Rawitch, and Roynoff, with instructions to continue experiments in three established institutions for vaccination. This was in 1858, but active operations did not commence till 1860, and then only at two points in southern Russia—Salmysche and Bondarewka—under the immediate superintendence of Veterinary Surgeon Kobuscheff at the former place, and of Surgeon Sergeeff at the latter. These experiments continued through four seasons.

The results, though still various and in some respects conflicting, are interesting and instructive. They show certainly the different degree of susceptibility in different breeds, and the loss or destruction of the vitality of the vaccine virus with age. The wide difference in severity and fatality, noticed in the two series of experiments, is readily suggested by the fact that matter from two to nine months old was principally used at Bondarewka.

At this place in 1860 fifty-eight cattle were vaccinated, nine were very sick, and three died. In most of these cases the matter was from five to nine months old. Re-vaccination of thirty-seven with fresh matter resulted in the sickness of five, of which three died.

In 1861 two hundred and fifty-seven were vaccinated inside of the institution, and two hundred and twenty outside. Of the former, only five were very sick, one hundred and seventy-seven were slightly ill, forty-two had some symptoms of the disease, and but one died. About half of those outside had the disease in a mild form. In one experiment two animals were vaccinated with slight effect, and afterwards took the disease naturally, notwithstanding vaccination, and both died.

At the arrival of the commissioners in 1863 two hundred and ninety-five had already been experimented upon by the Veterinary Surgeon Sergeeff, of which fifty-one had slight symptoms, one hundred and thirty-six had some cough and epiphora, thirty-three remained well, and seventy-five were not observed by the inoculator.

In three years Sergeeff vaccinated 1,028 animals, but used old vaccine matter, except in forty-five cases, of which seventeen took very sick and four died. The loss of contagious power in old matter is shown, further, by experiments of the commissioners upon twenty-one of Sergeeff's subjects with fresh matter, of which nine took sick, and four died. In another case, sixty-five head were tried with fresh vaccine matter, and thirty-nine were severely affected, and nineteen died, an unusual degree of fatality at Bondarewka. Matter from one to nine months old was tried upon fourteen animals, all escaping infection; but upon re-vaccination with fresh matter ten became sick and three died.

In one experiment two sheep were infected, and matter taken from them was used successfully in infecting six cattle; all were sick, and all but one died.

Vaccinated animals were frequently exposed to contagion with impunity, unless in cases in which the symptoms were comparatively mild.

In 1860, the whole number vaccinated at Salmysche was 64; 36 took sick after the first vaccination and 13 died; the other 28 were again vaccinated, of which 16 sickened and 7 died. Of the other 12, 10 were a third time vaccinated, and 4 a fourth time, with only one animal in each case slightly affected. Of the whole number, 64, 53 animals were infected, and 20 died. No milder effect was produced by vaccine matter "of the fifth generation." Of three animals vaccinated with matter of the second generation, two were infected and one died, while four animals died out of seven infected with matter of the fifth generation. In most of these experiments, matter over 25 days old had no effect.

In 1851 there were 151 vaccinated, of which 69 remained well, 39 had slight symptoms of disease, 43 had it severely, and 24 of them died. These 69 and 4 others slightly affected were re-vaccinated; 43 of which sickened and 17 died. Of 27 vaccinated the third and fourth time, 14 took sick and 8 died. In these experiments some that were slightly sick at the first vaccination died as the result of the second.

Some died after the third vaccination. Matter more than 9 days old was found inefficient.

In 1862, the third year, there were 51 deaths from 130 infections out of 167 vaccinations. It is a noticeable fact that of two breeds, the Baschkir and the Kirgis, less than a fourth of the latter became slightly sick, while about two-

thirds of the former experimented upon were infected, and more than one-third of the whole number died.

Of 466 cattle vaccinated by Veterinary Surgeon Kobuscheff at Salmysche, partly under supervision of Professors Jessen and Roynoff, from October 1, 1860, to July 5, 1863, 379 were infected, and 148 died. Thus about 80 per cent. of all took the infection, and more than 30 per cent. died.

In the experiments of the commissioners in 1863 are a few noteworthy features, In the fifth experiment, four animals that had been vaccinated without effect were left to take the contagion naturally; all became diseased, and three died. In another instance, several animals mildly affected by a former vaccination were vaccinated with fresh matter without effect. Again, in several cases, animals that had once had the disease were exposed to contagion with impunity.

Ten sheep were exposed to contagion, and five were vaccinated without effect, and they encountered subsequent exposure unharmed.

It will be seen that in one location, and that in which the greater number of fatal cases occurs, ten sheep were entirely unaffected, while at the other station two were vaccinated successfully and matter of extraordinary potency obtained for further experiments upon cattle.

CONCLUSIONS.

These results, more voluminous in the official documents, have been translated in the department, and a brief synopsis is here given, in the hope that some insight into this mysterious disease may be gained.

The following is a translation from the journal of the committee of their conclusions upon certain points, in view of the results of their experiments:

1. Is the rinderpest similar to the abdominal typhus of a human being, and to what degree?

The rinderpest must be considered as a contagious typhus, *sui generis*, as well in its clinical as anatomical pathological appearance, and is very similar to the abdominal typhus of a human being, but different from the same by its rapid course and the constant complication of catarrh in all the mucous membranes.

2. Is there any evidence that the rinderpest has its origin only or principally in the steppe countries of Russia, and that it was transferred thence to the other provinces of the country?

The rinderpest was brought from the steppe countries, but the place of its origin is not yet known. Therefore there is no positive evidence on hand to decide this question.

3. Are there any localities in Russia where the rinderpest began spontaneously?

Considering the reports on hand, there are places in the northern part of Russia where the rinderpest was developed by itself, but this assertion is difficult to prove, because no scientific examination has been made in these places concerning this question.

4. Is the rinderpest only contagious by direct contact with the infected animal or through miasmatic propagation?

The rinderpest is contagious as well by direct contact with the sickly or dead animal as by its exhalations.

5. Is the rinderpest alike contagious in all parts of Russia, and is the mortality the same everywhere?

The rinderpest is less contagious in the southern parts of Russia, and less fatal there in comparison with other regions of that country.

6. Does the season influence the contagion of the rinderpest?

The rinderpest is less contagious in summer and winter than in spring and fall.

7. Are certain breeds of cattle more disposed to rinderpest than others?

Not all breeds are alike disposed to contagion. The experiments at Salmysche

and at Bondarewka have shown that the Kirghis and south steppe breeds are less disposed to contagion than others.

8. Do all cattle of a herd take sick at the outbreak of the rinderpest?

This is the case sometimes in the northern part of Russia, but hardly ever in the southern part.

9. Is the vaccine matter of the rinderpest mitigated by successive generations of the disease?

Some cases have been very favorable to mitigation, but the latest experiments have shown that no mitigation of the effect of the vaccine matter took place even in the fifteenth generation. Therefore, in accordance with these results, mitigation of vaccine matter of the rinderpest cannot be expected. (Professor Jessen is against this conclusion.)

10. How long does vaccine matter of the rinderpest preserve its power of contagion, and has old vaccine matter the same effect as fresh matter?

The experiments made so far have not produced any positive results in determining the length of time that vaccine matter will preserve its vitality. In some cases the vaccine matter lost its effect in several days, but in others it maintained the same after eleven months. It is therefore remarked that the duration of the effect of vaccine matter depends considerably upon the manner of preservation. Experiments have shown, as far as the difference in effect between fresh and old vaccine matter is concerned, that vaccination with fresh vaccine matter generally causes a severe sickness, but vaccination with old vaccine matter a slight illness, and in some cases that it is without any effect.

11. Does vaccination of the rinderpest always preserve the animal from a repeated attack of the plague?

Animals which show strong characteristic marks of the rinderpest after vaccination certainly will not again contract the disease, but those which show light symptoms of the sickness after vaccination are not always safe from a repeated attack.

12. How long can an animal be considered safe after being vaccinated?

The results obtained do not render it certain how long this immunity will last; perhaps it will extend through the whole life of the animal, but our experiments only reach up to six years.

After reading the opinions of the president, and of the members, Jessen and Rawitsch, concerning the question what resolutions the committee should adopt in regard to vaccination in the rinderpest, the committee resolved:

1. To discontinue the vaccinating institutions at Bondarewka and Salmysche.

2. To publish a report of the vaccinations of the rinderpest in Russia in the Russian and French languages.

3. To request the government to make the necessary appropriations to the veterinary institutions of the government for making further investigations of the rinderpest and other epidemic diseases of animals by experiments, and by sending skilful veterinary surgeons to epidemic localities.

4. The government has no right to recommend the introduction of the vaccinations of the rinderpest as a preservative against the extension of the same in accordance with the established results of the experiments. Yet the committee permit the owners of cattle to establish vaccinating institutions in the steppe countries after having obtained the consent of adjoining neighbors, but in such places only as are remote from cattle roads, and upon condition that the institutions are superintended by skilful veterinary surgeons. They must also be erected in accordance with the plan adopted by the director of the Central Veterinary Institute.

5. All veterinary surgeons are obliged to make reports to the director of the Central Veterinary Institute of their experiments in vaccination of the rinderpest.

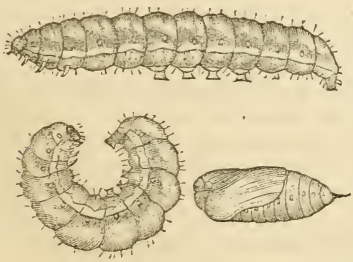
INSECTS INJURIOUS TO THE COTTON PLANT.

The applications to this department for information in regard to insects and diseases injurious to the cotton plant have made it necessary to devote a few pages of our monthly report to that subject. Inquiries come from southern planters as well as from northern men, who, totally unacquainted with the business, are going, or have gone, south to engage in cotton-planting.

In treating these subjects we shall employ plain and concise language, avoiding, as far as possible, the use of scientific terms, so that what is said may be intelligible to every farmer and planter. It is necessary that the farmer should not only be able to recognize his insect foes, but that he should know something of their history and habits, that he may the better devise means for their destruction, and understand whether, in the state of egg, caterpillar, chrysalis, or perfect insect, they may most readily be discovered and extirpated.

The first insect which attacks the young and tender cotton plant is the cut worm. These worms are merely the first or transition state of a moth or miller, (*Agrotis*,) the females of which deposit the eggs whence come the myriads of cut-worms so injurious to almost all garden and field crops. The most common example of this insect is that which destroys young cabbage plants.

The habits of cut-worms vary according to their species. Some excavate holes in the earth near the plants on which they feed, and hide themselves there during the heat of the day; others merely conceal themselves under loose clods of earth or stones, and come forth in the evening, or in dark, cloudy weather, to feed upon the plants. Sometimes they cut off the plants and drag them into their holes, where they may feed at leisure. They are never seen at their work in bright, sunny weather, but at night, by the aid of a lantern, they may often be found on the leaves or stalks and effectively destroyed.



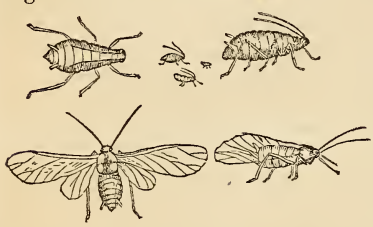
The cut-worm is a thick, naked, greasy-looking caterpillar, from one and a half to two inches in length, of a grayish or brownish color, longitudinally striped with light and dark markings. Some of them have also a shining, horny, black spot on the top of the first ring. After living some weeks in the caterpillar form, and changing or casting their skins several times, they bury in the earth, where they assume the chrysalis state, and become incapable of locomotion or feeding. The shining, chestnut-brown cases, from three-quarters to an inch in length, so often turned up by the spade or plough, are merely cut-worms and other caterpillars in the chrysalis state, and, if kept on moist earth, will change into the moth. All these chrysalides should be destroyed, otherwise the moths produced from them will deposit eggs for another generation of worms. Birds are of the greatest utility in this case, as, following the plough, they devour the grubs and caterpillars brought to the surface.

In the summer months the chrysalides remain under ground but a short time. The late broods retain their chrysalis state through the winter, and do not appear as moths till spring vegetation is far enough advanced to furnish food for the young caterpillars.

The cut-worm moths (Agrotis) measure from one to two inches across the expanded wings. The ground color of the upper wings is ashy-brown or reddish-gray, indistinctly crossed and shaded with two or more transverse darker bands, or marbled with dark and light marks. The under wings are either

whitish or gray, shaded darker towards the edges. When the moth is at rest, with closed wings, upon the bark of trees or on fence-rails, it is difficult of discovery, its color so closely resembling that of the objects on which it rests; but as they are attracted by light, numbers of them may be caught in summer evenings flying around the candle or lamp.

In small gardens cut-worms may easily be destroyed by digging them from their holes near the plants injured, and crushing them; but as this would be impracticable on large plantations, we should encourage the birds, who are the true agents appointed by Nature to keep in check the insects injurious to our crops. Young pigs also eat the chrysalides, and as the moths are attracted by light, burning brush, during the season the females are depositing their eggs, might diminish their numbers.



After the cut-worm, the next insect attacking the cotton plant is the louse, (aphis,) which injures it at all stages of its growth, by puncturing the terminal shoots and young leaves with its piercer and extracting the sap. This constant drainage of sap enfeebles the plant, causes the leaves to curl, become distorted, turn yellow, and finally fall, eventually killing the plant, if their ravages are not checked.

The most familiar type of this insect is the small, green louse, so common on rose-bushes and grape-vines. The natural history of the cotton louse is as follows: The female in late autumn deposits eggs which retain their vitality through the winter, and in the spring produce young lice, which at once attack the tender plant. During summer, however, the young produced are mostly females, and wingless, and are viviparous, bringing forth their progeny alive, and not by eggs as in the fall These young, without connexion with males, also bring forth living young for several generations. This fact accounts for their excessive multiplication. In the fall winged males become more numerous, and, after pairing, the females deposit their eggs for the spring generations.

The honey-dew, found on leaves under places frequented by these lice, is a sweet, excrementitious matter ejected by them, and is greedily sought for by myriads of ants, which may be seen on the plants infested by lice, often gently tapping them with their antennæ to induce them to emit the substance. Some authors are of the opinion that this honey-dew is discharged from two horns or tubercles on the upper side of the hind part of the abdomen, but De Geer and others state that it is discharged from the end of the abdomen, and that the tubes are probably breathing organs filled with air cells, and that the sap sucked from the plant is sooner changed into nourishment by coming in contact with these tubes.

These plant lice are about one-tenth of an inch in length, and generally of a greenish tint, but vary very much in color, many being almost black; indeed, they may be seen of all shades, from light-green to black, feeding together on the same stalk. It is probable, therefore, that the color is not owing to the plant upon which it feeds, but from some peculiar condition of the insect itself.

When old cotton plants are suffering from the attacks of the louse, many planters have the tops cut off and burned, thus destroying many. The common methods of fumigation—whale-oil soap, snuff, &c.—as used in greenhouses and small gardens, would be of no avail on an extensive cotton plantation; and until some more practicable means are devised the planter will have to rely principally upon other insects which feed upon the aphis and check their increase.

The principal insect enemy of the plant lice is the lady bug, (coccinella,) which, in both larva and perfect state, is incessantly waging war upon them,

and devour immense numbers. Minute four-winged flies (Braconidæ) deposit their eggs in the body of the louse, producing grubs which devour the interior of the living insect, and afterwards gnaw through the dead skin and escape. These skins may readily be recognized by their brown, leathery appearance, and by the small round in the abdomen through which the fly has crept.

The larvæ of the lace-winged fly (Chrysopa) also feeds entirely upon plant lice, as does also the larvæ of syrphus, a small two-winged fly beautifully banded with black and yellow on the body. These will be more fully described when treating of insects beneficial to the farmer by destroying those injurious to vegetation.

EXPERIMENTAL FARM OF THE DEPARTMENT OF AGRICULTURE.

Reservation No. 2, comprising the area between Twelfth and Fourteenth streets, with the Smithsonian grounds on the east and the Washington monument grounds on the west, has been used by the Department of Agriculture, by authority of Congress, as an experimental farm.

Operations were commenced thereon to a limited extent last season. The soil being a heavy clay, time, labor, and fertilizers were essential in an attempt to reduce it to proper tilth and condition for successful experiment. The results in this direction have been satisfactory.

The following are the kinds and number of varieties of seeds sown or planted:

Cereals, &c.

Wheat	110	Sweet corn	5
Oats	18	Sorghum	4
Barley	13	Millet	4
Rye	17	Rice	4
Indian corn	13	Corn from Dutch West Indies	1

Herbage and forage plants.

Rye-grass, &c	25	Lucerne	2
Clovers	9	Sanfoin	1

Leguminous plants.

Horse beans	4	Pole beans	10
Long pod or "Turkey" beans	13	Peas	70
Kidney or French beans	24	Vetches	3

Plants having tuberous and bulbous roots.

Potatoes	43	Parsnip	3
Beet	7	Kohl rabi	6
Mangel-Wurzel	6	Radish	7
Carrots	10		

Plants yielding fibre and oil.

Camelina Sativa	1	Cotton	2

Seeds, &c., not enumerated above.

Onions	12	Squash and pumpkins	20
Leeks	2	Sweet potatoes	3
Cauliflower	6	Tobacco	1
Kale and sprouts	9	Osage orange	1
Spinach and cress	4	Seeds from Vienna	27
Tomatoes	5	Sunflower	2
Egg plants	3	Seeds from China	36
Watermelons	12	Cabbage	21
Cantaloupe melons	19	Lettuce	15
Cucumbers	5	Mustard	1

With very few exceptions the seeds received have been good, and have germinated well. Upwards of eighty varieties of wheat were sown in autumn, and most of them have well endured the vicissitudes of winter and spring. At this time the most of the varieties look remarkably well. Among the most prominent is Hallett's Pedigree wheat, a smooth-eared variety, long in the ear, very luxuriant, and seems to be very productive.

Blue cone, or Rivett's wheat, is another very fine wheat, long and healthy in the ear, well-strawed, and promises well.

There is a white smooth wheat from Port Mahon which has done remarkably well, being a fine, close, thick crop, very fair-sized ears, and has covered the ground much better than the red-bearded Mediterranean wheat sown at the same time, viz: the 29th October, 1865.

The best and earliest of the spring wheats sown is called Black Sea wheat, the seed of which came from California. It is a bearded wheat, and promises to yield well, being sown on the 12th of March, 1866, and came into ear on the 28th May—in eighty-one days.

There is a red Chili wheat sown on the same date, which was only about three days later in coming into ear, and promises very well. The bearded winter wheats generally have done remarkably well.

Some of the varieties of rye are especially worthy of attention, having very long ears and tall straw.

The oats and barley are scarcely far enough advanced to speak of with certainty, although the greater portion of them promise to be very heavy and productive.

Of peas there are some new varieties which have come into maturity almost simultaneously. Dickson's First and Best Early peas, Carter's First Crop peas, Wheeler's First Early peas, all bloomed about the 10th of May, and were ready for picking on the 28th of May; Sangster's No. 1 was only about two days behind, and is very productive. Of the four varieties, Dickson's First and Best as the earliest and most productive, having large well-filled pods, and being

an excellent bearer. Of dwarf varieties, Tom Thumb and McLean's Little Gem pea are the earliest. McLean's Little Gem is the most productive, and is one of the best varieties for a market garden that can be grown, the haulms being literally covered with large well-filled pods. It requires no stakes.

Saxton's Prolific Early Long Pod pea and Warner's Emperor are two first-rate second-early peas, and there are a good many of the new varieties well deserving the attention of those interested in pea culture. These varieties are all growing together and receiving the same treatment, and have interested many professional and amateur gardeners, who have acknowledged the experiment to be highly successful and instructive.

All the other seeds sown in the ground promise well.

CURRENT IMPORTS OF GREAT BRITAIN.

It is important to watch the current trade of this great consumer of the surplus agricultural products of the world; important both for the purpose of taking advantage of a temporary demand for some product of which our farmers have an excess, and for showing how poor a dependence a foreign market actually is, especially for our cereals and other heavy products.

The following are some of the imports into Great Britain for four months of the present year, as compared with those of the same period in 1865, embracing a few of the agricultural items in which farmers of the United States are interested.

	1865.	1866.
Cotton, raw—		
From United States ..... cwts.	38,029	1,816,879
Bahamas and Bermuda ..... do..	137,309	2,602
Mexico ..... do..	106,914	3,145
Brazil ..... do..	161,660	267,530
Turkey ..... do..	87,056	55,737
Egypt ..... do..	600,693	402,495
British East Indies ..... do..	635,510	1,068,380
China ..... do..	142,818	.....
Other countries ..... do..	115,410	72,666
Total	2,025,369	3,689,434

The supremacy of United States cotton is again shown in this exhibit. For four years past it has made a trifling figure in the British market. It here towers above the figure for India by almost one hundred per cent., and almost exactly equals the totals from all other localities. It is equivalent to 508,726 bales of four hundred pounds each. Half a million bales in four months, and seventy millions of dollars, are respectable figures in the trade with one foreign nation, even for the palmiest days of cotton-shipping from the ports of the United States.

The following items show the increase in the foreign demand for petroleum:

	1865.	1866.
Petroleum—		
From United States of America.....tuns..	1,808	6,403
British India.....do..	281	35
Other countries.....do..	1,042	24
Total.....	3,131	6,462

In butter, cheese, hams, and beef, there has been a slight falling off in the British demand, the rinderpest to the contrary notwithstanding:

	1865.	1866.
Provisions—		
Bacon and hams.....cwts.	232,342	225,856
Beef, salt.....do..	81,585	72,567
Pork, salt.....do..	58,390	80,662
Butter.....do..	292,398	270,945
Cheese.....do..	177,271	127,305
Eggs.....number.	107,821,440	140,188,560
Lard.....cwts.	40,228	106,406

The following are imports of wool for the same periods, showing a steady demand of the manufacturers, with little variation:

	1865.	1866.
Wool, sheep and lambs'—		
From Hanse Towns and other parts of Europe.....lbs.	5,515,158	7,830,229
British possessions in South Africa.....do.	6,686,288	5,339,209
British East Indies.....do.	3,256,532	2,516,552
Australia.....do.	21,562,695	21,934,222
Other countries.....do.	6,220,970	4,335,563
Total.....do.	43,241,643	41,955,775

The following imports of wheat and corn, showing a great disparity in favor of the present year, reveal the utter insignificancy of the share allotted to the United States in the labor and profits of feeding the millions of hungry workmen of Great Britain :

	1865.	1866.
Wheat—		
From Russia ..... cwts.	1,231,453	3,092,245
Prussia ..... do..	382,113	409,222
Denmark ..... do..	88,234	55,578
Schleswig Holstein and Lauenburg ..... do..	52,949	39,520
Mecklenburg ..... do..	97,195	82,827
Hanse Towns ..... do..	29,309	87,425
France ..... do..	176,907	1,740,207
Turkey, Wallachia, and Moldavia ..... do..	169,312	218,788
United States ..... do..	127,924	303,084
British North America ..... do..	2,294	8,789
Other countries ..... do..	214,831	1,145,723
Total ..... do..	2,572,521	7,183,408
Wheat meal and flour—		
From Hanse Towns ..... do..	85,392	78,127
France ..... do..	767,622	2,011,452
United States ..... do..	94,238	162,412
British North America ..... do..	11,385	6,043
Other countries ..... do..	26,739	86,374
Total ..... do..	985,376	2,314,408
Indian corn or maize ..... do..	1,316,017	4,074,576
Corn meal ..... do..	2,191	7,072
Total ..... do..	1,318,208	4,081,648

Here it is seen that Britain buys this season ten times as much wheat from Russia as from us, and from her hereditary enemy, France, nearly six times as much. A little more than four per cent. of her seven millions of hundred-weight are bought from the United States.

A single township in Wisconsin of thirty-six square miles, producing an average of 19 bushels per acre, would more than furnish this shipment of 303,084 hundred-weight. The shipment of flour has been still less—162,412 hundred-weight. It may not be amiss, in glancing at these paltry breadstuff figures, to turn to the following, showing three items only of the manufactures of wool imported into the United States from January 1, 1866, to April 30, 1866, from Great Britain :

	Quantities.		Declared value.	
	1865.	1866.	1865.	1866.
Cloths	991,128	2,593,191	£148,611	£42,456
Carpets	206,373	1,716,754	34,168	287,775
Worsteds	12,982,180	34,360,042	544,321	1,666,374
Total	24,179,681	38,669,987	727,100	2,316,605

These items do not include our whole importation of manufactured wools in four months, but they afford a significant intimation of the prospect of selling breadstuffs enough to pay for our purchases of wool. Eleven millions and a half of dollars for woollens and worsteds in four months!

Our total imports into New York for four months have been: 1864, $90,457,-081; 1865, $52,280,622; 1866, $111,847,932; towards paying which we have sent to Great Britain wheat and flour to the amount of nearly a million and a half of dollars in currency, or one cent on a dollar!

FARM STOCK OF THE UNITED STATES AND EUROPE.

A comparison of the farm stock of this country and European nations illustrates well the extent and munificence of our agricultural resources. A vast area of great fertility has enabled us, in the very brief period of our national history, to secure an ampler supply of meat than any other civilized nation in proportion to population.

There has been a loss, to be sure, since 1860, by the waste of the war, in everything except sheep. It is a loss, however, that stock-growing enterprise, stimulated by high prices, will soon repair. The increase of sheep to double their numbers in 1860 is an earnest of what can be accomplished by such an incitement. If the States reported in the following tables may be assumed fairly to represent this decrease for the whole country, including the southern States and their heavy losses on the one hand, and the steady increase of stock in the Pacific States on the other, the percentage of decrease since 1860 may be estimated as follows: horses, ten per cent.; mules, twenty per cent.; cattle, seven per cent.; swine, twenty-two per cent.

The following is the statement for 1860 for the whole country:

Horses	6,249,174
Mules	1,151,148
Cattle	25,616,019
Sheep	22,471,275
Swine	33,512,867

But there is another return of the assistant marshals in charge of the census, which includes stock not on the schedules of farmers, representing stock in market, in transitu, or in the hands of individuals not stock-growers. Add this, and the exhibit is as follows:

Horses	7,434,688
Mules	1,317,934
Cattle	28,963,028
Sheep	23,977,085
Swine	36,980,772

The following is an exhibit of the farm stock of the States named, as shown in the census returns of 1860, compared with the estimates of the statistical division of the Department of Agriculture for 1866:

States.	HORSES.		MULES.		CATTLE.	
	1860.	1866.	1860.	1866.	1860.	1866.
Maine	60,637	50,844	104	140	376,933	285,432
New Hampshire	41,101	34,749	10	9	264,467	189,148
Vermont	69,071	47,781	43	42	370,450	305,760
Massachusetts	47,786	48,509	108	119	279,914	244,173
Rhode Island	7,121	6,828	10	.....	39,105	40,998
Connecticut	33,276	38,009	82	105	241,907	252,236
New York	503,725	408,763	1,553	2,078	1,973,174	1,964,043
New Jersey	79,707	79,599	6,362	7,497	238,794	220,960
Pennsylvania	437,654	396,623	8,832	13,915	1,419,493	1,348,748
Maryland	93,406	83,334	9,829	10,558	253,241	210,468
Delaware	16,562	15,523	2,294	2,280	57,721	49,358
Kentucky	355,704	209,136	117,634	59,752	836,059	546,876
Ohio	625,346	520,498	7,194	7,539	1,634,740	1,375,596
Michigan	136,917	171,956	330	699	479,844	515,895
Indiana	520,677	377,215	28,893	21,878	1,069,384	925,727
Illinois	563,736	574,205	38,539	50,899	1,583,813	1,446,635
Missouri	361,874	235,375	80,941	52,127	1,168,984	698,544
Wisconsin	116,180	174,608	1,030	1,956	521,860	660,088
Iowa	175,088	342,136	5,734	14,036	540,088	884,432
Minnesota	17,065	39,500	377	789	119,257	222,297
Kansas	20,344	32,469	1,496	2,499	93,455	202,303
Nebraska Territory	4,449	11,359	469	1,243	37,197	85,251
Total	4,287,426	3,899,019	311,864	250,151	13,599,880	12,674,968

States.	SHEEP.		SWINE.	
	1860.	1866.	1860.	1866.
Maine	452,472	1,041,724	54,783	35,355
New Hampshire	310,534	677,571	51,935	31,333
Vermont	752,201	1,377,296	52,912	32,908
Massachusetts	114,829	210,036	73,948	45,549
Rhode Island	32,624	35,884	17,478	11,690
Connecticut	117,107	188,308	75,120	52,356
New York	2,617,855	5,117,148	910,178	671,984
New Jersey	135,228	181,096	236,089	192,630
Pennsylvania	1,631,540	3,230,440	1,031,266	892,032
Maryland	155,765	262,576	387,756	368,396
Delaware	18,857	17,500	47,848	32,098
Kentucky	938,990	864,068	2,330,595	1,794,556
Ohio	3,546,767	6,568,052	2,251,653	1,838,481
Michigan	1,271,743	3,473,075	372,386	351,617
Indiana	991,175	2,783,367	3,099,110	2,261,780
Illinois	769,135	2,446,081	2,502,308	1,976,268
Missouri	937,445	830,999	2,354,425	988,857
Wisconsin	332,954	1,260,990	334,055	357,668
Iowa	259,041	1,950,752	931,820	1,423,568
Minnesota	13,044	90,496	101,371	127,701
Kansas	17,569	82,662	138,224	95,429
Nebraska Territory	2,355	15,766	25,369	35,289
Total	15,419,230	32,695,797	17,383,629	13,616,876

The following is a table showing the results of the official census recently (and for the first time) taken in Great Britain. As in our own census, the figures are more likely to be too small than too large, on account of the lurking suspicion (which also affects the accuracy of our own census to some extent) that taxation is at the bottom of all inquisition into the farmers' affairs. The English papers stoutly affirm the existence of such a feeling in the present case:

Divisions of United Kingdom.	Date of return.	CATTLE.		
		Cows.	Other cattle.	Total.
England	March 5, 1866	1,290,529	2,016,505	3,307,034
Wales	do	222,546	318,855	541,401
Scotland	do	370,457	566,954	937,411
Ireland	Year 1865	1,386,176	2,107,238	3,493,414
Isle of Man	March 5, 1866	7,755	10,932	18,687
Channel Islands:				
Jersey	do	5,815	6,222	12,037
Guernsey, &c	do	3,030	3,946	6,976
Total for United Kingdom		3,286,308	5,030,652	8,316,960

The following is a table showing the numbers of cattle, sheep and swine, at the dates mentioned, in the several nationalities of Europe:

Countries.	Date of returns of live stock.	Population according to latest returns.	CATTLE.		
			Cows.	Other cattle.	Total.
United Kingdom	1865–'66	29,070,932	3,286,308	5,030,652	8,316,960
Russia	1859–'63	74,139,394	.....	.....	25,444,000
Denmark, Schleswig, and Holstein.	1861	2,646,051	1,172,895	626,252	1,799,147
Sweden	1860	3,859,728	1,112,944	803,714	1,916,658
Prussia	1862	18,491,220	3,382,703	2,251,797	5,634,500
Hanover, Saxony, Wurtemburg, and Grand Duchies.	1852 to 1863.	9,395,738	1,728,224	1,273,029	4,170,275
Holland	1864	3,618,459	943,214	390,673	1,333,887
Belgium	1856	4,529,461	.....	.....	1,257,649
France	1862	37,386,313	5,781,465	8,415,895	14,197,360
Spain	1865	15,658,531	.....	.....	2,904,598
Austria	1863	36,267,648	6,353,086	7,904,030	14,257,116
Bavaria	1863	4,807,440	1,530,626	1,655,356	3,185,882

Countries.	Date of returns.	Sheep.	Swine.
United Kingdom	1865–'66..	25,795,708	3,802,399
Russia	1859–'63..	45,130,800	10,097,000
Denmark, Schleswig, and Holstein	1861.....	2,279,513	471,193
Sweden	1860.....	1,644,156	457,981
Prussia	1862.....	17,428,017	2,709,709
Hanover, Saxony, Wurtemburg, and Grand Duchies	1861 to 1864.	5,323,223	1,855,114
Holland	1864.....	930,136	294,636
Belgium	1856.....	583,485	458,418
France	1862.....	33,281,592	5,246,403
Spain	1865.....	22,054,967	4,264,817
Austria	1863.....	16,964,236	8,151,608
Bavaria	1863.....	2,058,638	926,522

In an analysis of these tables it appears that the United States led all other nations in 1860 in numbers of cattle and swine, as doubtless, at the present time, it leads in sheep likewise. As compared with population, we had 1.5 people to each sheep, 1.1 to each head of cattle, and less than one to each head of swine. We have now less people than sheep.

In Europe, according to these tables, the comparison with population is as follows: Denmark, 1.4 people to each head of cattle; Bavaria, 1.5; Sweden, 2; Hanover, 2.2; Austria, 2.5; France, 2.6; Holland, 2.7; Russia, 2.9; Prussia, 3.2; Great Britain, 3.5; Belgium, 3.6; Spain, 5.3.

Spain had less than a unit of population to each head of sheep; Prussia, 1; Great Britain, 1.1; Denmark, 1.1; France, 1.1; Russia, 1.6; Hanover, 1.7; Austria, 2.1; Sweden, 2.3; Bavaria, 2.3; Holland, 3.8; Belgium, 7.9.

The contrast between this country and those of Europe in the supply of swine is remarkable. Spain, with a larger population than any other European state, had only one-fourth of our supply in proportion to population. Spain had 3.6 people to each head of swine; Austria, 4.4; Hanover, 5; Bavaria, 5.1; Denmark, 5.6; Prussia, 6.8; France, 7.1; Russia, 7.3; Great Britain, 7.6; Sweden, 8.3; Belgium, 9.8; Holland, 12.2.

AVERAGE VALUE OF CROPS PER ACRE.

The following tables are deductions from data furnished by the corps of statistical observers who have reported to this department during the last four years. A comparison of figures for the different States, furnished by independent parties who could have no collusion with each other, will show a similarity in circumstances that are similar, and marked differences where one would naturally expect them from superior culture or proximity to markets, that furnish indubitable evidences of approximate correctness. And yet they are not assumed to be entirely accurate, nor yet so accurate as they may be made in the future.

It will excite surprise in the superficial observer, but not in the thinking mind, that "sterile New England" should show so large a value of products per acre. This value results primarily from the markets created by manufactures. They also furnish the means and the inducement to artificial fertilization, and an encouragement to a greater expenditure of labor. It should be remembered that an acre of corn in New England means more than one hundred and sixty rods of soil slightly scratched; it means also manure and hard

work. As to actual profit, in proportion to labor and money expended, it may, or it may not, equal a similar expenditure in the west.

These tables teach, not only the value of *home markets*, but show how excessive charges for transportation are eating out the substance of the west, reducing home prices and farmers' profits, and consigning corn to the grate or furnace. It should teach the west to diversify its industry, and divert labor from wheat-growing to industries which make light products. It should teach the west to consume its own wheat and corn, as far as possible, and save to its soil the elements of its fertility that are now wasted in the rivers of the east and of Europe.

The cost of transportation is in part the cause of the following receding scale of values, from east to west:

States.	Value of corn.	Value of wheat.
Vermont	$48 80	$29 03
New Jersey	37 30	28 25
Maryland	24 19	21 73
Ohio	20 20	16 25
Indiana	17 96	16 30
Illinois	14 47	14 36
Iowa	19 59	12 85

Nor is the difference due to yield, notwithstanding the fertilizers and the labor employed in the east, as is seen:

States.	Bushels corn per acre.	Bushels wheat per acre.
Vermont	37.64	15.07
New Jersey	36.25	15.6
Maryland	25.9	11.5
Ohio	32.91	12.19
Indiana	33.85	13.1
Illinois	32.56	12.83
Iowa	36.06	13.7

These differences scarcely exist as to barley, for which the market is much the same in different sections. It is, moreover, a minor crop.

Average value of farm products per acre for the States named from 1862 *to* 1865, *inclusive.*

Articles.	MAINE.				NEW HAMPSHIRE.			
	1862.	1863.	1864.	1865.	1862.	1863.	1864.	1865.
Indian corn	$31 96	$36 27	$56 70	$41 14	$34 58	$35 10	$61 72	$40 10
Wheat	24 80	21 12	27 18	28 80	22 95	26 88	33 50	39 74
Rye	17 64	15 60	24 54	19 36	16 38	20 64	29 58	20 56
Oats	15 12	16 75	22 22	15 86	11 56	16 74	22 08	20 06
Barley	22 04	24 84	26 10	19 20	20 54	24 84	30 42	23 63
Buckwheat	18 20	12 76	24 32	18 45	13 80	23 80	25 31	16 53
Potatoes	53 55	50 85	95 81	78 95	39 24	51 52	98 40	81 94
Tobacco	.....	.....	.....	165 00	.....	200 00	246 25	176 00
Hay	11 11	11 44	18 37	11 81	13 80	14 00	21 00	14 70

	VERMONT.				MASSACHUSETTS.			
Corn	$30 45	$38 28	$76 05	$50 42	$31 45	$39 60	$64 26	$36 83
Wheat	21 60	18 96	36 05	39 50	27 37	27 16	38 56	38 99
Rye	12 90	17 55	28 57	20 50	13 75	20 64	30 00	19 10
Oats	14 44	19 20	28 71	20 87	17 50	20 80	27 35	18 72
Barley	18 72	27 82	35 42	31 26	22 62	22 88	35 60	23 60
Buckwheat	12 69	14 64	19 99	19 50	15 12	16 53	20 31	18 83
Potatoes	33 75	48 50	87 75	68 88	55 46	72 08	123 22	76 99
Tobacco	.....	160 00	.....	150 00	160 16	318 00	412 50	270 00
Hay	8 80	8 59	17 95	13 80	14 95	23 44	29 00	28 00

	RHODE ISLAND.				CONNECTICUT.			
Corn	$31 08	$40 95	$63 22	$38 58	$26 88	$39 60	$56 11	$38 28
Wheat	30 00	24 00	37 50	.....	24 48	25 05	39 19	41 56
Rye	18 06	20 40	34 00	22 05	12 04	17 36	28 65	18 37
Oats	21 60	19 60	32 58	21 94	15 84	20 88	30 00	23 82
Barley	28 50	27 14	41 00	36 43	21 25	26 50	42 54	32 20
Buckwheat	15 30	18 00	.....	.....	11 20	13 02	22 41	17 47
Potatoes	69 44	73 15	124 31	88 68	48 60	71 69	108 73	92 45
Tobacco	.....	287 50	405 00	300 00	182 00	312 50	362 50	405 00
Hay	19 00	25 00	31 50	25 31	12 60	18 75	32 40	29 37

	NEW YORK.				NEW JERSEY.			
Corn	$23 10	$33 00	$49 28	$22 80	$25 16	$34 00	$53 87	$36 19
Wheat	22 50	19 46	30 50	31 96	24 70	24 48	34 95	28 86
Rye	14 44	14 98	24 72	15 50	14 04	17 10	22 88	14 04
Oats	16 10	19 60	21 62	17 73	15 18	17 52	29 62	16 48
Barley	30 74	24 78	32 69	22 54	18 75	23 54	35 70	24 64
Buckwheat	11 88	11 68	20 58	17 10	16 33	14 40	24 48	20 83
Potatoes	47 50	42 00	76 12	66 34	55 00	46 50	93 60	78 73
Tobacco	120 00	233 40	212 93	152 74	.....	216 00	.....	200 00
Hay	14 00	16 25	25 48	17 26	15 00	28 50	41 98	24 30

Average value of farm products per acre, &c.—Continued.

Articles.	PENNSYLVANIA.				MARYLAND.			
	1862.	1863.	1864.	1865.	1862.	1863.	1864.	1865.
Corn	$20 16	$31 02	$45 64	$32 00	$17 36	$20 93	$34 83	$23 66
Wheat	21 96	19 88	28 80	25 09	19 46	18 04	29 90	19 52
Rye	12 96	14 04	24 25	17 57	12 80	12 96	22 96	8 79
Oats	13 69	17 25	25 45	16 32	10 40	9 45	19 14	10 50
Barley	24 65	26 62	30 78	21 58	27 84	24 00	47 65	26 81
Buckwheat	14 40	12 45	21 87	17 00	18 27	18 69	30 97	21 53
Potatoes	57 00	60 14	98 19	73 87	62 37	50 41	66 00	55 02
Tobacco	156 24	324 80	197 67	89 59	102 63	65 00	102 50	79 41
Hay	16 00	19 00	31 91	17 97	21 00	27 50	36 00	24 64

	DELAWARE.				KENTUCKY.			
Corn	$10 40	$25 00	$31 51	$12 37	.....	.....	$27 55	$14 73
Wheat	16 80	28 80	30 36	15 00	.....	.....	20 14	12 36
Rye	10 80	10 00	24 54	.....	.....	.....	18 16	8 40
Oats	8 75	14 00	19 20	5 64	.....	.....	19 22	11 19
Barley	42 50	24 00	50 63	6 65	.....	.....	37 14	23 01
Buckwheat	15 00	10 00	20 00	10 50	.....	.....	27 96	29 74
Potatoes	56 00	60 00	165 00	87 18	.....	.....	89 01	53 49
Tobacco	36 00	54 00	.....	60 00	.....	.....	92 40	88 38
Hay	19 25	25 00	45 00	21 25	.....	.....	26 88	16 94

	OHIO.				MICHIGAN.			
Corn	$14 52	$17 76	$30 08	$18 43	$17 22	$20 72	$30 66	$23 14
Wheat	15 36	14 69	19 78	15 17	18 00	17 03	23 52	25 85
Rye	9 60	12 32	16 19	9 09	9 72	11 57	16 70	12 03
Oats	4 95	13 92	20 84	10 82	8 06	14 85	19 68	15 10
Barley	19 75	25 30	36 92	20 31	21 00	22 89	30 03	21 87
Buckwheat	12 19	9 57	18 70	14 61	9 89	9 70	14 22	17 60
Potatoes	40 80	54 72	87 60	76 22	41 54	48 96	64 38	54 53
Tobacco	103 40	105 98	117 52	67 70	130 00	198 03	200 00	201 50
Hay	10 50	16 75	25 77	13 33	12 00	14 06	21 48	21 90

	INDIANA.				ILLINOIS.			
Corn	$12 18	$16 32	$27 70	$15 63	$9 20	$13 64	$24 75	$10 32
Wheat	14 08	15 12	24 50	11 51	10 64	12 60	22 21	11 99
Rye	10 60	14 88	18 34	9 80	8 60	11 84	15 22	8 05
Oats	4 05	13 92	19 18	10 62	4 80	13 44	19 01	8 40
Barley	25 49	28 57	37 44	21 86	21 60	20 90	30 14	11 91
Buckwheat	12 50	13 76	23 00	15 78	9 89	7 81	18 70	15 71
Potatoes	44 80	47 12	79 60	65 52	40 00	51 80	93 44	55 28
Tobacco	133 08	92 28	119 84	65 01	154 14	84 92	146 42	81 09
Hay	12 18	18 12	26 72	15 67	13 60	17 25	23 00	13 95

Average value of farm products per acre, &c.—Continued.

Articles.	MISSOURI.				WISCONSIN.			
	1862.	1863.	1864.	1865.	1862.	1863.	1864.	1865.
Corn	$9 88	$15 08	$26 00	$20 28	$16 00	$17 01	$29 14	$19 09
Wheat	13 09	16 32	24 85	20 73	13 26	12 88	14 09	18 31
Rye	7 65	10 88	17 44	14 95	8 82	11 10	13 37	10 87
Oats	7 56	14 25	18 05	12 08	14 28	14 04	16 50	11 38
Barley	21 06	22 54	33 97	27 26	23 43	21 12	19 74	18 73
Buckwheat	12 00	10 08	16 81	18 24	11 44	7 60	14 64	13 80
Potatoes	36 49	60 75	68 38	76 23	48 32	37 83	64 90	51 00
Tobacco	120 00	86 25	76 27	125 72	144 00	134 29	147 00	156 00
Hay	12 00	17 50	25 89	21 78	11 80	13 50	14 86	15 21

	IOWA.				MINNESOTA.			
Corn	$30 02	$10 80	$24 78	$12 78	$17 10	$14 03	$31 02	$19 57
Wheat	9 66	10 64	16 48	14 63	11 20	9 80	15 15	16 48
Rye	9 20	10 62	13 80	10 81	6 72	10 80	13 19	14 52
Oats	8 58	10 14	16 96	10 00	13 33	17 28	21 13	16 18
Barley	15 66	20 16	25 25	14 20	16 66	19 20	21 83	15 95
Buckwheat	10 73	14 88	19 95	15 31	10 92	10 79	20 97	18 40
Potatoes	46 08	37 31	84 51	51 74	43 75	45 32	75 60	68 95
Tobacco	113 28	134 10	239 25	172 24	125 40	84 00	160 00	200 00
Hay	16 00	12 25	15 45	12 87	12 00	9 00	14 04	14 60

	KANSAS.				NEBRASKA TERRITORY.			
Corn	$12 80	$13 20	$34 25	$21 82	.....	.....	$28 21	$27 43
Wheat	15 54	14 08	30 15	26 90	.....	.....	21 00	26 82
Rye	14 84	12 40	21 25	25 07	.....	.....	20 64	18 00
Oats	10 23	11 40	27 98	22 60	.....	.....	19 13	20 63
Barley	24 05	21 50	29 21	31 39	.....	.....	24 50	31 03
Buckwheat	15 30	13 23	18 75	38 50	.....	.....	.....	36 66
Potatoes	52 92	47 94	115 24	115 43	.....	.....	107 47	89 43
Tobacco	205 00	176 00	75 94	133 25	.....	.....	.....	102 50
Hay	10 20	10 00	21 67	16 00	.....	.....	9 99	11 28

Average cash value of farm products per acre for four years, from 1862 to 1865, inclusive.

States.	Corn.	Wheat.	Rye.	Oats.	Barley.	Buckwheat.	Potatoes.	Tobacco.	Hay.
Maine	$41 52	$25 48	$19 28	$17 49	$23 04	$18 43	$69 79	$165 00	$13 18
New Hampshire	42 87	30 77	21 79	17 61	24 85	19 86	67 77	200 00	15 87
Vermont	48 80	29 03	19 88	20 80	28 30	16 70	59 72	155 00	12 28
Massachusetts	43 03	33 02	20 87	21 09	26 17	17 70	81 94	290 16	23 85
Rhode Island	43 46	30 87	23 63	23 93	33 27	18 00	88 89	293 62	25 20
Connecticut	40 22	32 57	19 10	22 63	30 62	16 02	80 37	315 50	23 28
New York	32 04	26 10	17 41	18 76	27 69	15 31	57 99	179 77	18 25
New Jersey	37 30	28 25	17 01	19 70	25 66	19 01	68 46	208 00	27 44
Pennsylvania	32 20	23 93	17 20	18 18	25 91	16 43	72 30	192 07	21 22
Maryland	24 19	21 73	14 38	12 37	31 57	22 36	58 45	87 38	27 28
Delaware	19 82	22 74	15 11	11 90	30 94	13 87	92 04	50 00	27 62
Kentucky *	21 14	16 25	13 28	15 20	30 07	28 85	71 25	90 39	21 91
Ohio	20 20	16 25	11 80	12 63	25 57	13 77	64 83	98 65	16 59
Michigan	22 93	21 10	12 50	14 42	23 95	12 85	52 35	182 38	17 36
Indiana	17 96	16 30	13 40	11 94	28 34	16 26	59 26	102 55	18 17
Illinois	14 47	14 36	10 93	11 41	21 14	13 03	60 13	116 64	16 95
Missouri	17 81	18 75	12 73	12 98	26 21	14 28	60 46	102 06	19 29
Wisconsin	20 31	14 63	11 04	14 05	20 75	11 87	50 51	145 32	13 84
Iowa	19 59	12 85	11 11	11 42	18 82	15 22	54 91	164 72	14 14
Minnesota	20 43	13 16	11 31	16 98	18 41	15 27	58 40	142 35	12 41
Kansas	20 52	21 67	18 39	18 05	26 54	21 44	82 88	147 55	14 47
Nebraska Territory*	27 82	23 91	19 32	19 88	27 76	36 66	98 45	102 50	10 63

* Average of 1864–'65. No returns for 1862–'63.

Average yield of farm products per acre for four years, from 1862 to 1865, inclusive.

States.	Corn.	Wheat.	Rye.	Oats.	Barley.	Buckwheat.	Potatoes.	Tobacco.	Hay.
	Bush.	*Bush.*	*Bush.*	*Bush.*	*Bush.*	*Bush.*	*Bush.*	*Lbs.*	*Lbs.*
Maine	31.5	12.86	14.37	27.25	22.50	22.37	136.87	750.‡	1868.
New Hampshire	32.62	14.19	16.12	28.62	22.06	18.85	126.37	862.†	2075.
Vermont	37.64	15.07	15.3	35.	25.18	24.05	139.62	775.‖	2150.
Massachusetts	33.7	16.15	15.18	28.32	21.87	18.71	115.31	1298.5	2408.
Rhode Island	33.44	17.†	18.25	34.62	26.12	17.5	113.5	1166.6†	2219.
Connecticut	31.8	16.5	14.25	31.94	24.25	15.7	116.8	1337.5	2375.
New York	30.33	15.08	15.7	30.1	22.7	18.5	107.8	1078.5	2577.
New Jersey	36.25	15.6	15.	30.47	22.25	17.9	88.05	1100.‖	3044.
Pennsylvania	34.6	14.05	14.7	31.3	22.8	18.5	99.14	1070.4	2750.
Maryland	25.9	11.5	16.06	23.5	27.79	23.2	74.9	778.9	2891.
Delaware	20.46	13.13	14.55	20.25	19.75	17.62	106.1	366.66	2750.
Kentucky*	31.25	8.75	11.2	24.29	22.22	20.08	70.05	353.25	2733.33
Ohio	32.91	12.19	13.69	24.9	23.34	16.75	82.75	827.9	2733.33
Michigan	32.96	14.66	14.44	29.19	22.7	16.25	113.6	1066.5	2831.
Indiana	33.85	13.1	15.55	23.65	24.55	19.4	84.5	843.4	3078.
Illinois	32.56	12.83	16.83	27.5	25.4	17.1	92.06	862.75	3100.
Missouri	33.2	14.99	16.58	26.15	24.06	18.8	88.3	813.	2964.
Wisconsin	34.9	14.3	15.62	34.29	23.69	18.1	126.9	1128.25	2809.
Iowa	36.06	13.7	18.53	33.8	24.8	20.29	107.8	882.3	3550.
Minnesota	34.75	16.98	19.66	35.06	26.75	19.9	146.75	910.	3350.
Kansas	37.54	16.8	22.	31.5	28.3	22.8	93.	778.25	3683.
Nebraska Territory*	37.5	16.	17.	16.66	23.27	‡26.66	95.16	587.5	3333.

* For 1864–'65. † Average of 1863–'64–'65. ‡ Average of 1865. ‖ Average of 1863, '65.

CONDITION OF THE CROPS.

Wheat.—The general anxiety relative to the wheat crop has stimulated to careful and accurate observation the thousands of observers who report to this department. At the date of their returns, June 1, the future could not with certainty be predicted, however accurate their estimate of the present appearance of the crop. Their returns have been more complete than ever before, and may evidently be relied upon as the most accurate ever given.

If the dictum of a traveller making observations "on the wing" through several States is deferred to and quoted in leading journals, how much more reliance should be placed upon a corps of intelligent *residents* in each county, who notice and report carefully and frequently the changing conditions and varying vicissitudes of the crops.

In view of the results given in the following tables, and taking into the calculation the relative proportion of the whole crop for each of the States, the average prospect for the ripening wheat crop is seventy per cent. of an average crop.

This would indicate a serious loss. It would, however, leave an aggregate quantity which, with that produced in the southern and Pacific States, and the remnant of the old crop on hand, would be ample for the actual wants of the country. If further disaster should not yet overtake the crop, there need be no fears for a sufficiency of breadstuff supplies.

The injury has been mainly attributed to winter-killing. In addition, the depredations of the fly have been complained of in many places, and injury has also resulted from dry weather early in the spring.

In the general expression of loss and anxiety, such statements as the following, of which many were received, are gratifying.

The secretary of the Montgomery County (Illinois) Agricultural Society says: "The appearance of winter wheat was never better at this season of the year, and if it ripens off without rust or other injury, will be the best crop of wheat in this section of the country for many years."

Allen county, Kansas.—"Our prospect for winter wheat is better than ever known in this section."

Woodson county, Kansas.—"Our winter wheat makes the best appearance that it ever did at this season, and bids fair to be heavy."

Union county, Ohio.—After reporting the prospect of one-fifth of a crop, our correspondent says: "A few fields of good wheat are seen, but they are invariably protected by timber on the northern and western sides."

Ohio and Indiana appear to have suffered most from winter-killing. A prospect for 34 per cent. of a crop of winter wheat in Indiana is sufficiently discouraging. An increase, by four-tenths, of the average breadth of spring wheat will afford some relief, and ought to bring up the total average to half a crop. Ohio is reported at four-tenths for winter wheat, with two and a half tenths more of spring wheat than usual. A very little better prospect for winter wheat than Indiana, and not quite so large an increase of spring wheat, will give about the same result—half an average crop.

Illinois, now our greatest wheat-growing State, promises seven-tenths of a crop. As the spring wheat, which is the main dependence for a crop in portions of the State, is nearly as good as usual, at least three-fourths of a crop of wheat should be expected in this State.

In Wisconsin the winter wheat is reported at six and one-third tenths, with one and three-fourths more spring wheat than usual, which should secure three-fourths of an average crop for this State.

In Iowa the appearance of winter wheat is nine-tenths, spring ten and three-fourth tenths, and breadth of the latter sown twelve and one-eighth tenths. This should give at least an average crop for Iowa.

In Pennsylvania the wheat crop is eight-tenths.

In New York, winter wheat eight and four-ninths tenths; spring wheat nine and three-fifths tenths, or about eight-tenths for the crop as a whole.

In Missouri a prospect for a full crop of winter wheat is reported, with one-half tenth, or five per cent. more than the usual breadth of spring wheat, looking nearly as well as usual at this season of the year.

Kentucky is reported at five and two-thirds tenths.

Michigan, seven and a half tenths.

Minnesota, ten and five-ninths tenths for winter wheat, and nine-tenths for spring wheat.

Kansas, fourteen and one-third tenths for winter and twelve-tenths for spring wheat.

In New England, except in Massachusetts, a full breadth of spring wheat is sown, looking better than an average in Maine, and a fraction lower than an average in the other States.

Winter wheat, where it is grown at all, has suffered to the extent of one and two-tenths, and in Vermont and Connecticut three-tenths.

New Jersey is placed in the same list with New York and Pennsylvania, at eight-tenths; and Delaware, Maryland, and West Virginia will each average about six-tenths.

Winter rye.—The winter rye shared the fate of the wheat, but in a less degree. The injury was greatest in Ohio, West Virginia, Maryland, Kentucky, Michigan, and Indiana. Delaware, Connecticut, Massachusetts, and Vermont come next in order. Kansas, Nebraska, and Minnesota are the only States above the average, while Missouri and New Hampshire are reported at ten-tenths.

Winter barley.—Ohio promises little more than half a crop; Vermont six-tenths, and Connecticut, Iowa, and Illinois, eight-tenths; New Hampshire and Massachusetts, ten-tenths; Kansas, thirteen-tenths; Nebraska, fifteen-tenths. The average will be about eight and a half tenths. The spring barley, while varying in promise in different States, will average ten-tenths.

Oats.—The acreage of this crop s larger than usual in nearly all the States. The appearance of the crop is, in Indiana, eight-tenths; in Illinois, eight and a half tenths; in Ohio and Michigan, nine-tenths; in other States, ranging from nine to thirteen tenths; Rhode Island, Missouri, Iowa, Kansas, and Nebraska, being above the average. The crop indicates an average yield.

Clover.—More clover was sown than usual, and is reported in full average condition. In Delaware and Missouri its appearance is worst, though the increased acreage will make up the deficiency. Maryland, New Jersey, Massachusetts, New Hampshire, Illinois, and Kansas fall a little below the average; Maine, thirteen and one-sixth tenths.

Pastures.—Returns have been unfavorable to the dairy interest. A very general falling off is observed in the condition of pastures, except in the States beyond the Mississippi.

Maple sugar and molasses.—This product will average nine and three-quarter tenths. New Hampshire, Massachusetts, and Delaware ten-tenths. The other New England States nine and a quarter tenths. The middle and western States seven to nine tenths.

Sheep.—Sheep took the field this spring in better condition than usual. In some places neglect, and consequent disease and death, are reported, arising from depreciation in prices of wool.

Fruit.—A medium crop of apples is indicated, though there is variation in the appearance in different localities. In New England and the extreme west the prospect is better than usual; in the central States worse. Peaches have suffered from winter-killing very generally. In Ohio scarcely a third of a crop is expected; in New Jersey less than half a crop; in Delaware and Maryland about six-tenths.

Pears.—Pears will not prove an average crop.

Table showing the condition of the crops, &c., on the 1st day of June, 1866.

States.	WINTER WHEAT.		WINTER RYE.		WINTER BARLEY.		SPRING WHEAT.	
	Average appearance of winter wheat on June 1, 1866.	Amount of injury from winter-killing or other causes.	Average appearance of winter rye on June 1, 1866.	Amount of injury from winter-killing or other causes.	Average appearance of winter barley on June 1, 1866.	Amount of injury from winter-killing or other causes.	Average amount of spring wheat sown as compared with 1865.	Average appearance of same on June 1, 1865.
Maine	8⅔	12⅖	9⅞	11⅝	.....	.....	10	10½
New Hampshire	9⅒	10	10	10	10	10	10	9½
Vermont	7	11⅕	8½	10½	6	12	10⅝	9⅛
Massachusetts	9	12½	8½	11	10	10	8⅔	9⅗
Rhode Island	.....	.....	9	10	.....	.....	10	.....
Connecticut	7	12	8½	11	8	13	10	9⅛
New York	8⅘	11¼	8⅘	10½	8 3/11	11 3/11	10	9⅗
New Jersey	8⅛	12	9	11	10	10	10	9
Pennsylvania	8 1/10	12	9	11	9	11	10	9¼
Maryland	5 5/12	14½	7⅔	12	.....	.....	.....	.....
Delaware	6⅖	11	8½	11½	.....	.....	10	5
Kentucky	5⅔	14	8	11⅘	8⅔	8¾	10	9¾
Ohio	4	15⅝	6⅝	13⅛	5½	14⅒	12⅛	9¼
Michigan	7	13	8¼	10⅜	9	10	10¾	9⅛
Indiana	3⅖	16 4/11	8⅛	12½	5⅝	13½	14	9⅘
Illinois	7	13½	9	10¾	8	9¾	9⅗	9⅖
Missouri	10	11	10	10¾	9½	9¾	10½	11
Wisconsin	6⅗	14⅔	9	10⅜	8⅘	10	11¾	9⅗
Iowa	9	10⅒	10	10	10	10	12⅛	10¾
Minnesota	10⅘	9⅝	10¼	8¾	8¾	10	11	9
Kansas	14⅛	8⅕	12⅜	9	13	10	10	12
West Virginia	5⅝	13⅝	6⅞	12	7⅘	11⅘	8⅗	10½
Nebraska Territory	8⅔	10	11½	8⅔	15	.....	12 1/10	13

Table showing the condition of the crops, &c.—Continued.

States.	SPRING BARLEY.		OATS.		CLOVER.		SPRING PASTURE.	
	Average amount of spring barley sown compared with 1865.	Average appearance of same on June 1, 1866.	Average amount of oats sown compared with 1865.	Average appearance of same on June 1, 1866.	Average amount of acres sown in clover this spring compared with 1865.	Average amount of old clover fields frozen out this winter.	Average appearance of pasture other than clover.	Average appearance of clover pasture.
Maine	9½	9½	10¼	9⅜	10	13⅒	8¾	8⅒
New Hampshire	10	10	10	9⅛	10	9	8⅛	8
Vermont	10	9⅜	10¼	9⅛	10	10¼	7⅝	8
Massachusetts	10⅞	10	10	9½	9	9⅐	7½	7⅜
Rhode Island	10	10	10	10	10	10	9⅕	6⅜
Connecticut	10	9	10⅜	9⅕	10⅜	10	8⅕	8⅜
New York	9¾	9⅞	10⅕	9¼	11	10	8⅜	8¾
New Jersey	9	9½	9¾	9⅕	10	9½	8½	8⅓
Pennsylvania	10½	8¾	10 7⁄10	8 7⁄11	10 1⁄10	10	8 3⁄10	8½
Maryland	10	10	10½	9¼	10¼	9	8	7¾
Delaware	.....	.....	10	9	11⅓	8	8	8
Kentucky	10⅖	10⅕	11⅖	10	10½	9⅕	9⅖	9
Ohio	9½	9⅓	11	9	10	10	8⅕	7⅘
Michigan	9¾	9½	10⅞	9	11¼	10½	8	7⅓
Indiana	10¼	9¼	11½	8	9⅝	10	9½	8⅝
Illinois	9¾	9¼	10½	8½	10⅕	9⅖	9⅕	8⅝
Missouri	10⅞	11	12½	11	11⅘	8⅜	11½	11⅐
Wisconsin	10	9⅛	10¼	9⅓	10¼	10	8½	8¼
Iowa	10⅕	10½	10⅔	10⅔	11	10	10	9⅝
Minnesota	10	9	11	9 4⁄11	10⅝	10⅔	9¼	9
Kansas	11	10 7⁄10	11¾	11⅓	12	9⅐	11¾	11
West Virginia	9⅜	9⅝	11½	9⅙	10⅒	10	8⅝	8⅔
Nebraska Ter'y	12⅕	12½	11⅘	13	10	10	12	10

Table showing the condition of the crops, &c.—Continued.

States.	SUGAR AND MOLASSES.		SHEEP.		APPLES.		PEACHES.		PEARS.	
	Average amount of maple sugar made this spring compared with 1865.	Average am't of maple molasses made this spring compared with 1865.	Average condition of sheep this spring compared with 1865.	Average number died and killed the past winter and spring compared with 1866.	Average amount of apple bloom this spring.	Average appearance of apple crop on June 1, 1866.	Average amount of peach bloom this spring.	Average appearance of peach crop on June 1, 1866.	Average amount of pear bloom this spring.	Average appearance of pear crop on June 1, 1866.
Maine	9¾	9⅝	10 7/12	9⅝	12⅓	12½	.....	.....	11⅐	11
New Hampshire	10	10⅓	11⅛	9⅒	12	10⅗	9	9	9⅖	8⅘
Vermont	9½	9	10⅝	10	.....	12⅐	.....	.....	8½	9
Massachusetts	10	10⅒	10	10⅗	11½	10⅝	6⅛	6⅛	10	9¾
Rhode Island	.....	.....	10	10	11	11½	10	1	10⅛	10
Connecticut	9½	8⅓	11	10	11⅜	11	12	12	10	10
New York	9⅛	9⅛	10⅛	9⅜	11⅓	10⅓	7⅛	7⅓	10	10
New Jersey	10	10	10	10	12¼	11⅛	4¾	4⅐	10⅓	9½
Pennsylvania	8½	9	10⅓	9 7/10	11⅓	10⅗	9	7¼	10	8
Maryland	.....	.....	9⅓	10 3/11	10	9	8	6	9	7½
Delaware	10	12	8½	12	10⅔	9	9	6½	8⅜	9⅛
Kentucky	9⅛	9⅒	10½	9¾	8	7	6¼	5½	8	7
Ohio	8¼	8¼	10	10⅒	10⅐	9¼	3⅗	4	8	7
Michigan	6⅜	6⅗	10⅒	10⅓	9¾	8⅐	7½	7	9⅜	8½
Indiana	8⅝	9⅒	9⅜	10 7/10	9	8	4½	6⅛	7⅓	7
Illinois	9½	9⅓	10	9⅜	11⅜	10⅙	10	9¾	10	9
Missouri	8	8	11¼	9⅜	11⅛	10	7½	8⅛	10⅜	8⅗
Wisconsin	7	7¼	10¼	10	10	10	10	10	10⅛	9⅜
Iowa	8¼	8⅐	10 4/10	9⅝	12⅕	10	10	9⅗	11	9
Minnesota	8⅛	8½	9⅜	12¼	9½	9	.....	10	10	10
Kansas	9⅗	10	10½	9½	13⅐	11⅖	12	11½	11⅖	11⅓
West Virginia	9⅓	9	10⅗	9⅗	9	8½	7	5½	8½	6⅚
Nebraska Territory	.....	.....	10¼	9	8⅜	9	10	10	10	10

METEOROLOGY.

APRIL, 1866.

Table showing the highest and lowest range of the thermometer, (with dates prefixed,) the mean temperature, and amount of rain, (in inches and tenths,) for April, 1866, at the following places, as given by the observers named. The daily observations were made at 7 o'clock a. m. and 2 and 9 p. m.

Place.	County.	Observer's name.	Date.	Max.	Date.	Min.	Mean.	Rain.
MAINE.								
				°		°	°	*In.*
Steuben	Washington	J. D. Parker	19	71	17	31	42.9	4.02
Lee	Penobscot	B. H. Towle	23	64	11	20	43.3	2.95
West Waterville	Kennebec	B. F. Wilbur	22	69	8, 9	30	45.2	2.15
Lisbon	Androscoggin	Asa P. Moore						2.23
Webster	do	Almon Robinson	19	73	9, 10	30	44.4	
Standish	Cumberland	John P. Moulton	21	82	12	28	46.1	2.96
Cornish	York	Silas West	21	77	10	28	44.8	1.50
Cornishville	do	G. W. Guptill	21	77	9	30	42.6	2.46
NEW HAMPSHIRE.								
Stratford	Coos	Branch Brown	21	69	10	21	41.0	2.12
Shelburne	do	F. Odell	21	78	18	29	46.4	
North Barnard	Belknap	C. H. Pitman	21	78	9	32	46.8	1.32
Concord	Merrimack	John T. Wheeler	21	81	8, 9	28	48.6	
Claremont	Sullivan	S. O. Mead	21	79	10	26	45.0	
Do	do	Arthur Chase	21	80	10	26	46.9	2.00
VERMONT.								
Lunenburg	Essex	H. A. Cutting	18	65	28	20	38.0	2.50
Craftsbury	Orleans	James A. Paddock	18	69	30	27	41.1	1.95
Randolph	Orange	Charles S. Paine	21	72	10	21	44.8	1.78
Middlebury	Addison	H. A. Sheldon	21	76	10	28	46.9	1.78
Brandon	Rutland	Harmon Buckland	21	78	3	27	47.3	0.86
Barnet	Caledonia	Benj. F. Eaton	12	76	3	25	46.0	2.06
MASSACHUSETTS.								
Topsfield	Essex	S. A. Merriam	21	81	8, 9	35	50.3	1.49
Georgetown	do	Henry M. Nelson	21	83	17	31	47.7	
Newbury	do	John H. Caldwell	21	85	8, 9, 10	32	47.7	
North Billerica	Middlesex	Rev. E. Nason	21	80	9, 10	30	49.0	
New Bedford	Bristol	Samuel Rodman	22	72	9	33	46.8	1.95
Worcester	Worcester	Joseph Draper, M.D.	19, 22	76	8	34	49.3	2.09
Mendon	do	J. G. Metcalf, M. D.	16	78	8, 9, 18	32	47.2	1.95
Amherst	Hampshire	Prof. E. Snell	21	84	8, 10	30	48.6	2.03
Springfield	Hampden	J. Weatherhead	21	85	10	25	48.4	2.23

Table showing the range of the thermometer, &c., for April—Continued.

Place.	County.	Observer's name.	Date.	Max.	Date.	Min.	Mean.	Rain.
MASSACHUSETTS—Continued.				°		°	°	*In.*
Westfield	Hampden	Rev. E. Davis	21	82	8	31	48.4	2.25
Richmond	Berkshire	Wm. Bacon	19, 21	80	1	24	46.3	4.02
Williams College	do	Prof. A. Hopkins	21	80	9	24	46.2	0.75
RHODE ISLAND.								
Newport	Newport	Wm. H. Crandall	22	68	9	34	47.1	1.74
CONNECTICUT.								
Pomfret	Windham	Rev. D. Hunt	21	80	8	30	45.2	3.47
Columbia	Tolland	Wm. H. Yeomans	22	79	2, 8	34	50.2	.....
Middletown	Middlesex	Prof. John Johnston.	22	83	10	30	50.7	2.90
Colebrook	Litchfield	Charlotte Rockwell	21	81	8, 11	25	46.7	.....
Groton	New London	Rev. E. Dewhurst	22	70	8	32	48.3	3.32
NEW YORK.								
Moriches	Suffolk	Miss N. Smith	6	79	10	34	51.8	2.85
Fort Ann	Washington	P. A. McMore	22	69	26	35	51.0	3.00
Albany	Albany	H. M. Paine, M. D.	20	86	7, 9	40	57.1	1.66
Fishkill Landing	Dutchess	Wm. H. Denning	21	81	8, 9	32	51 7	1.92
Garrison's	Putnam	Thos. B. Arden	20	83	9	30	48.0	2.51
Throg's Neck	West Chester	Miss E. Morris	22	75	8, 10	32	49.7	.....
Deaf & Dumb Inst.	New York	Prof. O. W. Morris	21	82	8	37	53.7	4.09
Columbia College	do	H. B. Cornwall	21	79	8	34	50.3	2.40
Flatbush	Kings	Eli T. Mack	22	83	9	34	50.1	2.71
Newburg	Orange	James H. Gardiner	21	84	8	32	51.1	1.90
Troy	Rensselaer	J. W. Heimstreet	20	82	9, 10	33	50.8	1.45
Gouverneur	St. Lawrence	C. H. Russell	18, 20	76	8	25	46.3	2.46
North Hammond	do	C. A. Wooster	5, 12, 20	75	9	24	46.2	3.07
South Trenton	Oneida	Storrs Barrows	20	82	8	14	38.5	1.32
Depauville	Jefferson	Henry Haas	20	76	7, 8, 10, 26	31	46.4	2.29
Oswego	Oswego	Wm. S. Malcolm	21	73	10	29	46.7	3.33
Palermo	do	E. B. Bartlett	20	84	9	25	46.1	2.90
Skaneateles	Onondaga	W. M. Beauchamp	5	83	8	27	48.3	.....
Baldwinsville	do	John Bowman	20	80	9	28	45.8	.....
Nichols	Tioga	Robert Howell	5	86	8, 9	29	49.8	.....
Geneva	Ontario	Rev. Dr. W. D. Wilson	20	82	8	31	47.3	2.16
Rochester	Monroe	M. M. Mathews, M. D.	20	85	9	32	49.0	3.20
Do	do	Prof. C. Dewey	20	85	9	30	48.7	3.10
Little Genesee	Allegany	Daniel Edwards	28	84	9	23	47.6	.....
Buffalo	Erie	William Ives	4	80	9	28	42.2	2.61
Germantown	Columbia	Rev. S. W. Roe	20	82	.....	.....	.....	.....
NEW JERSEY.								
Paterson	Passaic	Wm. Brooks	21	84	8, 10	31	51.2	2.28
Newark	Essex	W. A. Whitehead	21	83	10	30	51.9	2.82
New Brunswick	Middlesex	George H. Cook	21	80	8	33	54.6	3.08
Trenton	Mercer	E. R. Cook	6	78	10	34	55.8	4.02
Burlington	Burlington	John C. Deacon	21, 22	80	10	32	53.7	4.00
Moorestown	do	Thomas J. Beans	21	82	8	35	52.8	3.16
Mount Holly	do	M. J. Rhees, M. D.	21	80	10	33	53.6	.....
Greenwich	Cumberland	R. C. Sheppard	21	79	10	35	53.8	1.97

Table showing the range of the thermometer, &c., for April—Continued.

Place.	County.	Observer's name.	Date.	Max.	Date.	Min.	Mean.	Rain.
PENNSYLVANIA.								
				°		°	°	*In.*
Nyce's	Pike	John Grathwohl	5	84	9	23	47.5	2.10
Fallsington	Bucks	Ebenezer Hance	21	80	8	36	52.0	2.90
Philadelphia	Philadelphia	Pf. J. A. Kirkpatrick	21	82	8, 9	38	55.5	2.92
Germantown	do	Thomas Meehan	21	85	9	34	52.8	.....
Moorland	Montgomery	Miss Anna Spencer	21	80	8, 9	34	49.1	2.73
Dyberry	Wayne	Theodore Day	20	82	9, 10	22	47.1	.....
Nazareth	Northampton	L. E. Ricksecker	21	82	9, 10	35	52.1	.....
North Whitehall	Lehigh	Edward Kohler	21	84	10	26	51.5	.....
Parkesville	Chester	F. Darlington	21	82	10	30	52.4	2.39
Ephrata	Lancaster	W. H. Spera	20	81	9	31	.....	2.46
Harrisburg	Dauphin	John Heisely, M.D.	20	82	8	36	55.2	3.97
Lewisburg	Union	C. S. James	20	80	8	30	51.6	3.25
Tioga	Tioga	E. T. Bentley	21	88	9	22	50.1	2.47
Pennsville	Clearfield	Elisha Fenton	20	85	9	26	48.3	3.15
Connellsville	Fayette	John Taylor	20	88	8	27	55.1	.....
New Castle	Lawrence	E. M. McConnell	20	81	9	21	53.5	.....
DELAWARE.								
Delaware city	New Castle	L. J. Vanhekle	21	82	8.9	37	53.8	.....
MARYLAND.								
Woodlawn	Cecil	Jas. O. McCormick	21, 22	80	9	35	54.7	4.75
Catonsville	Baltimore	Grape & Raulett	5	79	8	32	51.1	.....
Annapolis	Anne Arundel	Wm. R. Goodman	21	81	10	37	55.8	3.04
St. Inigoes	St. Mary's	Rev. J. Stephenson	21	80	7, 8, 9	40	56.4	3.55
Frederick	Frederick	Miss H. M. Baer	20	78	8, 10	32	54.3	3.25
VIRGINIA.								
Wytheville	Wythe	Howard Shriver	4, 28	81	9, 11	31	56.0	.....
WEST VIRGINIA.								
Cabell Court House	Cabell	C. L. Roffe	4	84	7	34	58.5	5.40
NORTH CAROLINA.								
Wilson	Wilson	E. W. Adams, A. M.	28	91	9	38	64.1	6.35
GEORGIA.								
Atlanta	Fulton	Frederick Deckner	27	91	11	36	62.4	4.21
MISSISSIPPI.								
Grenada	Yalobusha	Albert Moore	.....	.....	9	37	.....	.....
Natchez	Adams	Robert McCary	3, 17, 18, 19, 21, 26, 27, 28, 30	80	9	38	65.8	9.50
ARKANSAS.								
Helena	Phillips	O. F. Russell	27	89	7	42	66.4	5.40
TENNESSEE.								
Clarksville	Montgomery	Wm. M. Stewart	27	89	7, 8	37	61.5	4.40

Table showing the range of the thermometer, &c., for April—Continued.

Place.	County.	Observer's name.	Date.	Max.	Date.	Min.	Mean.	Rain.
KENTUCKY.								
				°		°	°	*In.*
Louisville	Jefferson	Mrs. L. Young	27	87	9	30	60.0	2.57
(Near) Chilesburg	Clark	Dr. S. D. Martin	4, 27, 28	82	9	28	58.2	3.83
Taylorsville	Spencer	H. C. Mathis, M. D	28	88	.....	.....	.....	.....
OHIO.								
Saybrook	Ashtabula	James B. Fraser	4, 18	82	8, 9	28	49.5	.....
New Lisbon	Columbiana	J. F. Benner	20, 28	86	8, 10	28	55.6	2.78
East Fairfield	do	S. B. McMillan	28	82	8, 9	31	53.0	1.67
Steubenville	Jefferson	Joseph B. Doyle	20	83	9	32	57.2	.....
Smithville	do	Mrs. M. E. & D. N. Tweedy.	19	90	9, 27	32	57.9	0.66
East Cleveland	Cuyahoga	Mr. & Mrs. G. A. Hyde	18	84	8	23	51.8	2.37
Wooster	Wayne	Martin Winger	28	88	9	28	54.5	.....
Gallipolis	Gallia	A. P. Rogers	4	85	8	31	57.3	3.61
Kelley's Island	Erie	Geo. C. Huntington	18	75	8	30	49.6	1.11
Norwalk	Huron	Rev. A. Newton	4	84	9	29	52.5	2.38
Westerville	Franklin	Pf. H. A. Thompson.	3, 19	81	8	30	57.3	1.63
Kingston	Ross	Prof. Jno. Haywood.	3	88	9	30	58.5	1.63
Toledo	Lucas	J. B. Trembly, M.D.	18	82	7, 9	30	50.9	0.88
Marion	Marion	H. A. True, M.D.	4	80	9	28	53.7	2.23
Urbana University	Champaign	Prof. M. G. Williams.	3, 4	82	8	30	55.8	1.69
Hillsboro'	Highland	J. McD. Mathews	4, 28	80	8, 9	29	56.1	2.23
Ripley	Brown	G. Bambach, M.D	5	88	8	35	61.2	2.13
Bethel	Clermont	Geo. W. Crane	3, 4	82	9	28	55.0	1.90
Cincinnati	Hamilton	R. C. Phillips.	4	84	8	33	60.7	2.49
College Hill	do	L. B. Tuckerman	28	82	9	28	57.0	3.16
Do	do	John W. Hammitt	4, 18, 28	82	9	30,	58.0	3.63
MICHIGAN.								
Monroe	Monroe	Miss F. E. Whelpley.	28	77	8	28	50.3	0.80
State Ag. College	Ingham	Prof. R. C. Kedzie	18	78	7	29	48.9	1.41
Homestead	Benzie	Geo. E. Steele	27	76	8	19	42.8	.....
Holland	Ottawa	L. H. Streng	18	79	7	24	47.7	2.08
INDIANA.								
Balbec	Jay	Miss M. Griest	4	88	9	28	55.8	.....
Aurora	Dearborn	Geo. Sutton, M. D.	27	87	9	28	57.9	1.91
Vevay	Switzerland	Chas. G. Boerner	28	97	7	33	61.8	1.69
Richmond	Wayne	John Valentine	4	81	9	31	54.4	2.52
Spiceland	Henry	Wm. Dawson	4, 27	82	8	30	56.7	2.30
Columbia	Whitley	Dr. F. & Miss McCoy.	17	84	8	26	52.5	1.50
New Harmony	Posey	Jno. Chappellsmith	27	86	8	36	61.2	1.26
ILLINOIS.								
Chicago	Cook	Samuel Brookes	27	84	5, 6, 7	26	44.1	.....
Marengo	McHenry	J. S. Rogers	27	84	6, 8	28	48.7	2.57
Riley	do	E. Babcock	17	84	7	26	45.3	2.28
Golconda	Pope	W. V. Eldredge	17	90	8	32	64.3	2.05
Aurora	Kane	A. Spaulding	27	84	8	22	49.9	0.90
Sandwich	De Kalb	N. E. Ballou, M. D	27	83	1	25	50.5	1.65
Ottowa	La Salle	Mrs. E. H. Merwin	18	84	.....	.....	.....	1.62
Winnebago	Winnebago	J. W. & Miss Tolman	27	84	5, 6	27	48.9	3.06
Wyanet	Bureau	E. S. & Miss Phelps.	27	88	7, 9	26	52.3	1.09

Table showing the range of the thermometer, &c., for April—Continued.

ace.	County.	Observer's name.	Date.	Max.	Date.	Min.	Mean.	Rain.
ILLINOIS—Cont'd.				°		°	°	*In.*
Tiskilwa	Bureau	Verry Aldrich	27	86	6, 9	28	52. 8	.....
Elmira	Stark	O. A. Blanchard	27	88	6	27	53. 4	2. 06
Hennepin	Putnam	Smiley Shepherd	27	89	7	26	53. 0	.....
Peoria	Peoria	Frederick Brendel	27	87	6	32	56. 3	2. 65
Springfield	Sangamon	G. M. Brinkerhoff	27	84	7	26	50. 6	.....
Loami	....do	Timothy Dudley	27	87	5, 7, 8	30	55. 9	0. 95
Dubois	Washington	Wm. C. Spencer	27	83	8	22	55. 3	1. 90
Hoyleton	....do	O. J. Marsh	18, 27	85	.....	.....	.....	.....
Galesburg	Knox	Pf. W. Livingston	27	85	6, 7	30	51. 5	2. 52
Augusta	Hancock	S. B. Mead, M. D	17	81	7	26	54. 8	4. 79
Manchester	Scott	Dr. J. & C. Grant	27	86	5	30	58. 1	4. 16
Clinton	De Witt	C. H. Moore	.....	.....	7, 9	32	.....	.....
Mount Sterling	Brown	Rev. A. Duncan	27	86	5	30	57. 5	.....
Andalusia	Rock Island	Dr. E. H. Bowman	29	89	1, 8	28	52. 0	.....
WISCONSIN.								
Manitowoc	Manitowoc	Jacob Lüps	18	76	8	23	42. 1	2. 10
Milwaukee	Milwaukee	I. A. Lapham, LL.D	18	74	8	24	43. 5	3. 04
Do	....do	Carl Winkler	18	76	6, 8	30	44. 6	3. 49
Ripon	Fond du Lac	Prof. Wm. H. Ward	17	76	6, 8	24	46. 2	.....
loomfield	Walworth	Wm. H. Whiting	27	83	7	25	47. 2	.....
Delavan	....do	Leveus Eddy	27	80	6, 7	28	47. 2	2. 63
Waupacca	Waupacca	H. C. Mead	17	77	5, 7	27	46. 2	.....
Weyauwega	....do	J. C. & B. F. Hicks	27	84	6	25	47. 4	2. 94
Embarrass	....do	E. Everett Breed	17	78	7	24	43. 7	2. 80
Rocky Run	Columbia	W. W. Curtis	27	82	7	22	47. 0	4. 22
Baraboo	Sauk	M. C. Waite	27	82	7	28	49. 7	5. 19
Beloit	Rock	H. D. Porter	27	83	5	27	49. 7	4. 15
Plymouth	Sheboygan	G. Moeller	18	77	6, 7, 8	24	43. 2	3. 10
MINNESOTA.								
Beaver Bay	Lake	C. Wieland	28	58	8	19	39. 1	3. 20
Afton	Washington	Dr. & Mrs. Babcock	27	80	6	20	42. 8	.....
St. Paul	Ramsey	Rev. A. B. Paterson	27	76	6, 8	20	41. 7	2. 26
Minneapolis	Hennepin	Wm. Cheney	27	82	6	19	42. 3	2. 59
Forest City	Meeker	H. L. Smith	27	79	5, 8	18	43. 8	3. 20
Sibley	Sibley	C. E. & C. W. Woodbury.	27	82	6	17	43. 0	1. 93
New Ulm	Brown	Charles Roos	27	85	5	22	46. 6	1. 98
IOWA.								
Clinton	Clinton	Dr. P. J. Farnsworth	27	86	6	28	52. 3	2. 00
Lyons	....do	A. T. Hudson	18	95	6	28	52. 1	2. 70
Davenport	Scott	George B. Pratt	27	81	6, 7	30	50. 7	5. 56
Dubuque	Dubuque	Asa Horr, M. D	27	84	6	28	50. 9	2. 35
Muscatine	Muscatine	J. P. Walton	27	84	6, 7	26	52. 1	1. 91
Fort Madison	Lee	Daniel McCready	27	85	'6	24	54. 0	3. 82
Monticello	Jones	Chauncey Mead	27	89	6	22	47. 7	2. 67
Ceres	Clayton	J. M. Hagensick	27	80	6, 8	22	41. 2	.....
Manchester	Delaware	Allen Mead	27	86	6	24	45. 7	2. 10
Mount Vernon	Linn	Prof. A. Collins	27	83	6, 7	25	50. 1	.....
wa City	Johnson	Prof. T. S. Parvin	27	86	6	22	51. 2	92

Table showing the range of the thermometer, &c., for April—Continued.

Place.	County.	Observer's name.	Date.	Max.	Date.	Min.	Mean.	Rain.
IOWA—Continued.				°		°	°	*In.*
Independence	Buchanan	Mrs. D. B. Wheaton.	27	88	6, 7	21	48. 9	4. 30
Do	do	D. S. Deering	27	79	5	23	48. 5	.....
Waterloo	Black Hawk	T. Steed	27	82	6, 7	26	48. 1	.....
Iowa Falls	Hardin	N. Townsend	27	80	5	21	46. 4	4. 71
Osage	Mitchell	Rev. Alva Bush	.....	.....	6	22	.....	.....
MISSOURI.								
St. Louis University	St. Louis	Rev. F. H. Stuntebeck	27	91	5	37	60. 7	1. 73
Allenton	do	A. Fendler	27	93	8	26	57. 1	3. 68
Athens	Clark	J. T. Caldwell	2, 17	80	6	28	55. 6	3. 63
Harrisonville	Cass	John Christian	1	84	5	34	58. 8	6. 92
Union	Franklin	Dr. W. Moore	27	89	6, 8	33	58. 8	4. 39
KANSAS.								
Olathe	Johnson	W. Beckwith	26	87	5	28	55. 9	2. 95
Atchison	Atchison	Dr. H. B. & Miss Horn	27	90	6	21	54. 6	.....
Council Grove	Morris	A. Woodworth	16	87	6	26	55. 7	4. 25
Leavenworth	Leavenworth	Dr. J. Stayman	27	90	6	24	56. 5	2. 93
Burlington	Coffey	Allen Crocker	16, 27	85	5, 7	30	59. 2	4. 43
NEBRASKA TER.								
Elkhorn	Washington	John S. Bowen	2	90	5	25	50. 9	.....
Bellevue	Sarpy	Rev. Wm. Hamilton.	2	86	5	26	51. 8	1. 37
Glendale	Cass	Dr. A. L. and Miss Child.	2	91	5	22	51. 6	3. 19
UTAH TER.								
Great Salt Lake City	Great Salt Lake	W. W. Phelps	25	80	2	31	49. 2	3. 35
CALIFORNIA.								
Sacramento	Sacramento	T. M. Logan, M. D	24	86	3	45	61. 9	0. 48
Monterey	Monterey	C. A. Canfield, M. D.	23	84	16	47	57. 4	0. 99
TEXAS.								
Austin	Travis	J. Van Nostrand	30	89	6	41	67. 6	6. 07
Chapel Hill	Washington	W. H. Gantt, M. D.	29, 30	86	.....	.....	.....	.....
FLORIDA.								
Jacksonville	Duval	A. S. Baldwin, M. D.	28	96	9, 10	52	74. 3	1. 70

Table showing the average temperature and fall of rain (in inches and tenths) for the month of April, for each of the years named, with the average number of places in each State in which the observations were made.

States and Territories.	Av. number of places.	Averages, 1855.		Averages, 1856.		Averages, 1857.		Averages, 1858.		Averages, 1859.		Averages, 1863.		Averages, 1864.		Averages, 1865.		Averages, 1866.	
		Mean temp.	Mean rain.	Mean temp.	Mean rain.	Mean temp.	Mean rain.	Mean temp.	Mean rain.	Mean temp.	Mean rain.	Mean temp.	Mean rain.	Mean temp.	Mean rain.	Mean temp.	Mean rain.	Mean temp.	Mean rain.
		Deg.	*In.*	*Deg.*	*In.*	*Deg.*	*In.*	*Deg.*	*In.*	*Deg.*	*In.*	*Deg.*	*In.*	*Deg.*	*In.*	*Deg.*	*In.*	*Deg.*	*In.*
Maine	6	38.4	6.38	42.6	2.78	39.0	6.65	39.7	4.15	38.6	3.36	40.8	4.83	37.8	2.80	43.4	4.38	41.3	2.61
New Hampshire	4	42.2	4.73	44.3	2.20	39.9	6.22	41.0	2.94	36.1	2.73	42.3	3.16	40.1	2.12	44.8	3.80	45.8	1.81
Vermont	4	40.5	1.61	44.2	1.20	38.7	4.96	40.9	2.23	38.2	2.30	40.2	1.96	40.9	2.55	42.4	2.93	44.0	1.82
Massachusetts	12	43.6	4.95	45.4	3.23	41.8	7.25	45.1	3.29	42.9	3.46	44.8	4.22	42.2	2.30	48.8	2.95	48.0	2.08
Rhode Island	1	44.1	2.50	48.8	2.80	41.0	6.29	46.2	3.63	44.2	2.28	45.2	5.50	.....	.....	.....	.....	47.1	1.74
Connecticut	4	44.2	3.31	47.2	3.99	41.1	6.65	44.9	3.75	44.1	3.18	45.3	3.31	45.8	1.82	49.6	3.15	48.2	3.23
New York	18	44.4	2.78	47.2	2.39	39.1	5.88	45.8	3.26	43.3	4.97	43.8	3.28	45.9	3.52	48.2	3.71	48.6	2.55
New Jersey	4	49.1	1.85	50.4	2.60	42.8	6.94	48.9	3.95	46.9	5.00	48.2	5.84	48.4	3.75	54.2	3.29	53.4	3.65
Pennsylvania	19	49.7	2.29	50.2	3.51	41.3	4.13	49.2	3.73	48.4	5.36	46.3	6.91	46.9	4.25	52.5	2.20	51.6	2.83
Delaware	1	.....	.....	52.1	.....	50.1	.....	58.4	.....	.....	3.93	.....	.....	.....	.....	55.2	2.40	53.8	.....
Maryland	4	54.7	1.32	52.9	2.90	47.5	3.12	50.9	3.82	50.8	5.11	47.7	5.13	49.3	6.14	56.3	3.15	54.5	3.65
District of Columbia	1	55.7	.....	54.7	2.68	45.3	2.40	53.4	3.66	52.2	4.69	49.6	6.82	43.0	6.82	.....	.....	.....	.....
South Carolina	5	64.9	0.89	64.6	0.63	56.5	2.92	64.2	2.59	62.9	2.48	.....	.....	63.5	1.69	69.1	1.10	.....	.....
Tennessee	2	64.9	3.25	59.4	4.18	49.7	5.72	60.1	4.86	57.9	5.79	57.7	3.27	58.3	.....	.....	.....	61.5	4.40
Kentucky	4	60.6	1.63	58.8	1.63	42.2	4.46	56.5	4.72	54.2	5.93	54.8	3.38	51.0	3.07	56.7	7.68	59.1	3.20
Ohio	20	55.9	2.30	53.2	1.67	40.1	3.01	51.0	4.80	47.8	5.65	48.3	1.74	47.8	3.23	52.4	3.94	55.4	2.12
Michigan	7	49.2	4.78	45.0	1.87	35.4	2.96	44.7	3.99	40.9	3.47	44.7	1.91	44.5	3.35	46.4	1.56	47.4	1.43
Indiana	5	57.1	5.02	56.5	0.81	42.1	2.15	53.9	5.19	49.6	5.13	52.2	2.63	48.8	4.24	53.9	4.77	57.2	1.86
Illinois	13	58.6	2.16	54.8	1.93	38.7	1.56	49.8	5.17	44.9	3.55	51.8	1.87	46.8	4.39	49.0	4.91	50.6	2.32
Wisconsin	9	50.2	2.03	45.7	3.04	35.4	2.45	42.6	4.32	36.0	4.28	45.0	1.21	40.7	2.35	44.2	3.14	46.0	3.37
Minnesota	3	51.9	.....	41.4	4.77	29.8	2.68	39.4	2.92	34.8	2.28	47.2	0.75	41.9	0.34	43.7	3.90	42.8	2.53
Iowa	8	55.6	2.27	51.7	3.33	36.8	1.35	46.5	5.48	37.7	3.34	50.2	1.07	45.7	3.58	46.0	5.42	56.0	3.19
Missouri	2	62.2	1.79	60.1	6.35	43.5	1.72	56.2	4.67	51.9	4.89	51.5	1.45	50.6	4.84	52.8	5.95	58.2	4.07
Nebraska Territory	2	.....	.....	.....	.....	.....	.....	48.2	5.05	41.4	1.64	53.1	0.75	45.8	2.40	46.0	4.69	51.4	2.28
Kansas	3	.....	.....	.....	.....	41.6	0.33	52.5	3.49	50.3	2.67	59.3	3.74	51.3	2.86	53.8	1.58	56.4	3.64
California	3	.....	.....	58.5	1.19	61.1	0.00	59.7	0.96	55.4	2.49	54.8	2.66	.....	.....	.....	.....	59.7	0.74

NOTES OF THE WEATHER—APRIL, 1866.

FROM THE SMITHSONIAN INSTITUTION.

Steuben, Maine.—April 6.—In digging a grave frost was found four feet down, owing to there being no snow and the long continuance of cold weather. 10th and 11th, very white frost. 15th, an inch and two-tenths of snow fell last night. 18th, very heavy frost; ground as white as if covered with snow. 21st, a thunder-shower at 7 p. m.; sharp lightning. 24th, hard rain last night, at times with hail. A thunder-shower from 4 to 5 o'clock this morning. The lightning struck a house in West Gouldsberry, rendering it untenantable till repaired. A lady was injured and her child killed. 28th, it freezes quite hard in nights.

Cornish, Maine.—April 7.—Snow from 9 to 11 p. m, half an inch. 21st, thunder and lightning from 5 p. m. to 7 p. m. from the northwest. 30th, grass very forward for the season.

Standish, Maine.—April 17.—Heavy frost last night; ground frozen quite hard this morning. 18th, ice broke up in Sebago lake. 21st, showers from 5.30 p. m. to 8 25 p. m., with lightning. 24th, frost disappeared from the ground. 26th, 27th, ground froze a little on both these mornings.

West Waterville, Maine.—April 18.—Spring work on the farm commenced. 19th, ice cleared from snow pond to-day below the Narrows.

Lisbon, Maine—April 2.—Two men crossed on the ice at Southwest Bend. 4th, ice all out of the river. 21st, thunder-storm at 5 p. m., the first this season. 30th, the month closes with cold, windy weather; but very little farming done yet.

Lee, Maine.—April 9.—White frost this morning. 14th, steamboat runs to head of navigation on Penobscot river. 20th, ground clear of frost. 24th, diffuse lightning and distant thunder at 6 a. m., first this season.

North Barnstead, New Hampshire.—April 21.—Heavy thunder from 4 to 6 p. m. coming from the west and passing off in an easterly direction. 28th, thunder from the west and northwest.

Stratford, New Hampshire.—April 3.—First appearance of robins. 18th, white or soft maple in bloom. 21st, first appearance of barn swallows. 25th, mountain tops white with snow. 26th, three-quarters of an inch of snow this morning.

Shelburne, New Hampshire.—April 7.—Androscoggin river open. 12th, grass just starting. 23d, lilac leafing. 26th, snow-squalls. 30th, heavy frost, ground frozen.

Barnet, Vermont.—April 1.—The ground froze unusually deep the past winter, to the depth of three feet. 5th, the Connecticut river broke up. 23d, the first thunder of the season. 24th, the barometer stood lower than for several years. 30th, there has been much less rain than usual in this month; there was none till after the middle, yet the season is rather more forward than usual.

Middlebury, Vermont.—April 30.—The month has been quite dry, the season is early, and the farmers have sowed grain two weeks earlier than usual.

Topsfield, Massachusetts.—April 18.—Caterpillars just making their appearance in usual numbers. 27th, black frost, doing no perceptible injury to vege-

tation. 30th, barley and other grains have come up finely, and grass looks well, though the ground is quite dry, the rain being absorbed very quickly. The pastures, however, are backward.

Westfield, Massachusetts.—April 7.—The last snow fell. 21st, the first thunder-shower of the season. 24th, at 7 a. m. the barometer fell to 28.87, (corrected for temperature,) which was lower than the observer had ever seen it in this place. 28th, plums in blossom. The flower buds of peach trees are winter-killed.

North Billerica, Massachusetts.—April 5.—Lilac leaves unfolding; farmers ploughing. 24th, barometer at 2 p. m. lower than the observer ever saw it before. 30th, the early cherry in bloom in sheltered situations; on the whole, the spring is backward.

New Bedford, Massachusetts.—April 15.—Lawns and grass plots assume a bright green. 19th, blossoms of the silver poplar falling. 27th, elm blossoms fall. 30th, some dwarf magnolias in the warmest situations in flower.

Middletown, Connecticut.—April 21.—Thunder and lightning in the morning. 23d, thunder and lightning in the morning and evening.

Theresa, New York.—April 7.—Ice went out of the river. 15th, frost mostly out of the ground. 21st, four peals of very distant thunder at 3 a. m. 27th, ground froze some.

Depauville, New York.—April 4.—Return of snipes and ground birds; put out bees; some old snow banks along the north side of walls and fences. 10th, farmers begin to plough. 12th, roads dry, and on high ground dusty; some oats and spring wheat sown to-day. 18th, first schooner leaves the port of Clayton, on the St. Lawrence river. 27th, frost; ice a tenth of an inch thick. 30th, the month was rather dry, but, in the mean, mild and pleasant, and very favorable for farm work. Owing to the warm weather from the 16th to the 23d vegetation was quite brisk, but was retarded by the cold nights of last week.

Garrison's, New York.—The weather during April has averaged cold and dry; vegetation coming forward slowly will class the season as backward. The first shad taken at this position was on the 9th. Quite a thunder-storm from the southwest on the 21st.

Moriches, New York.—April 19.—Martins first seen about their favorite resting-place on the barn. 21st, at 6.5 p. m. thunder in the west; a shower came up, and thunder and lightning were noticed four or five times; passed east. 23d, thunder heard several times at 9½ a. m, apparently from the southeast, and soon overhead. 26th, thin ice seen in a small boat. 28th, a general frost this morning. 30th, for four days large fires have prevailed in the pine barrens or forests a few miles to the west and northwest. The air has been excessively dry.

New York, New York.—April 8.—Snow during the forenoon, ground white, but the snow chiefly melted as it fell. 21st, thunder shower at 4 10 p. m. to the north, and here from 4.40 to 5.20 p. m.; lightning zigzag. 23d, one flash of lightning followed by thunder at 9 a. m.; three thunder-showers from 2.40 p. m. to 7 20 p. m.; with the last one the lightning white and zigzag, and thunder heavy. 23d, at 5 p. m. the barometer at Columbia college reached a point below any previously recorded there. 28th, lightning from 8 to 10 p. m.; first diffuse, then zigzag; no thunder heard.

Little Genesee, New York.—April 14.—Thunder-shower at 5 p. m. 20th, apple and currant leaves begin to show. 26th, ground froze a little. 27th, thermometer 24° at sunrise. 30th, ice this morning; thermometer 29° at sunrise.

Buffalo, New York.—April 2.—Buffalo creek broke up and ran out to-day. 4th, remarkable flight of pigeons this morning, passing eastward in immense waves, miles in length; thermometer 82° at 2.20 p. m., and 70° at sunset. Swallows came to-day. 9th, thermometer 24° at 6 a. m.; earth frozen. 17th,

red maple in blossom. 21st, rain with thunder and lightning at 2 a. m. 23d, rain from 8 a. m. to 6 p. m., with strong northeast wind, which then hauled to northwest, bringing snow; this continued till 11 a. m. 24th, about four inches of snow fell; most of it melted as it fell; the greatest depth measured was two inches; ice driven from this end of the lake and navigation open. 25th, ice in the gutters, and ground frozen. 26th, slight snow before daylight. 27th, loose earth frozen. 30th, frost this morning.

Troy, New York.—April 8.—One inch of snow last night, and falling lightly until 10½ a. m. 24th, great barometrical depression, the reading at 7 a. m. being the lowest recorded in this city.

Skaneateles, New York.—April 5.—Butterflies flitting around. 8th, 9th, 10th, white frost. 12th, lake free of ice. 16th, hepaticus and daffodils in blossom. 21st, thunder-storm from 1 to 2 a. m., about a mile to the northwest. 24th, four inches of snow; also two inches on the 25th and one inch on the 26th. 28th, thunder and diffuse lightning. 30th, severe frost. April has been remarkably dry; grass and grain look well, but a warm rain would have a good effect in expanding buds of every description.

Fishkill on Hudson, New York.—April 8.—Snowed all day, melting on roads; two inches laid on fields, five inches on the mountains; temperature before and after not low enough to do any injury. 23d, cherries and plums in bloom. 30th, the month has been very dry, with frequent gales, injurious to the grass crop, which looks very indifferent; winter grain is much frozen out.

Gouverneur, New York.—April 6.—Ice out of the Oswey river; it was melted by the heat of the sun. 24th, barometer the lowest during the last six years.

Newburgh, New York.—April 29.—A violent gale visited this vicinity during the night of the 28th, and lasted during the 29th.

Rochester, New York.—April 5.—Ice about out of the canal. 6th, freshet in the Genesee. 25th, thermometer at 2 p. m. 85°, nearly insupportable by persons working on roofs; hottest known here in April, except once, when it was 88°; apricots in blossom; horse-chestnuts leafing; some thunder, with shower, at 5½ p. m. 24th, the greatest storm of the season thus far; it commenced with rain yesterday morning, and changed to snow at about 9 in the evening, continuing till 3 p. m. to-day; at least four inches of snow must have fallen, though nearly all melted by evening. The barometer was quite low during this storm, but it has been lower in more than one case. 25th, ground frozen this morning half an inch deep; freshet in the Genesee, the highest this season. 28th, early cherries in blossom. 30th, farmers were able to plough and sow oats, plant potatoes, &c., in the dry and warm first half of the month, and to make good progress in farm work. The large rain has stopped that work in part, and it has hardly begun again.

Palermo, New York.—April 30.—This has been the warmest April for thirteen years. The spring has been quite favorable; fruit and foliage are quite forward, and also grass. The prospect for fruit is thus far believed to be good.

Greenwich, New Jersey.—April 7.—Hyacinths and crocuses in flower. 22d, trees in apple orchard generally in bloom. 23d, barometer lower to-night than the observer ever noticed it.

Mount Holly, New Jersey.—April 17.—Plum tree in bloom. 21st, cherry trees in bloom. 22d, butter pear tree in bloom. 23d, heavy showers in the morning, from 6 to 10 o'clock; about 5 p. m. a heavy fall of rain, with considerable hail as large as peas, and attended by thunder and lightning; the barometer lower than the observer ever before saw it. The storm moved from southwest to northeast. About five miles to the southwest it was as severe as here; and about five miles northeast the hail-stones are said to have been half an inch in diameter, and a large wild cherry tree was almost demolished by lightning. 26th, apple trees in bloom, with good prospect of fruit. There is said to have been frost this morning, but the observer did not see it nor any effects of it.

Newark, New Jersey.—The mean temperature of April was more than three degrees above the average of the month during the last twenty-two years; in only three years during that period (1844, 1846, and 1865) did the month show a higher result. There were irregularities observed in the order of development of vegetation, as, for instance, the young leaves of the horse-chestnuts showed themselves this year on the 20th, in advance of the blossoms of the cherries and plums, whereas last year they were more than a week behind them. The dog-wood was in full flower on the 21st; cherries put out on the 22d; plums on the next day, but pears were not in flower until the 29th. The rains of the 21st and 23d were accompanied with thunder and lightning.

Moorestown, New Jersey.—A late cold spring; asparagus eight days later than last spring; first cherry bloom the 18th; pear 19th; strawberry 21st; apple trees in full bloom on the 30th, with an unusual quantity of bloom.

Burlington, New Jersey.—April 6.—First thunder this season commenced about 4 p. m.; it passed from west to east. 23d, hail-storm about 5 p. m.; course west to east; stones three and a half inches in circumference.

Lewisburg, Pennsylvania.—Cherries blossomed April 20; plums and some peaches the 22d; pears the 30th; ground slightly frozen on the 25th and 26th.

Fallsington, Pennsylvania.—The month of April has been cold and backward, but a prospect of a great show of apple and other fruit blossoms, not yet quite out; apple, some eight or ten days later than usual.

Horsham, Pennsylvania.—Much less rain fell during April than usual. The season is backward, as much as two weeks more so than last year. The peach buds appear to be all killed, and the trees pretty nearly so. There is a fine promise of apple blossoms and of most other fruits.

Dyberry, Pennsylvania.—April 17.—A reservoir eight miles north of this place is still nearly covered with ice. A few farmers have commenced ploughing the past week. 19th, thunder in the north at 5 p. m.; the first heard this season. 30th, fifty-two and a half inches of snow fell during the past winter, but much of it was light and feathery. The average for the past twelve years is fifty-three inches.

Connellsville, Pennsylvania.—April 12.—Peach trees are in bloom. 17th, heard the whippoorwills to-night. 23d, thunder at times through the day; snow after dark. 24th, apple trees in bloom. 26th, the ground frozen this morning.

Blooming Grove, Pennsylvania.—April 6.—Swallows have arrived. 21st, thunder-storm at 2½ p. m. 22d, whippoorwills here. 29th, storm from the northwest; it blew down trees and fences.

Ephrata, Pennsylvania.—April 20.—First appearance of blossoms on cherry trees. 21st, heavy thunder-storm at 2 p. m.; two distinct showers, the first moving from the west, the second from the northwest. 22d, first appearance of blossoms on peach trees; heard whippoorwill first time this spring. 23d, thunder-shower at 4 a. m. from southwest; heavy peals of thunder; also at 3 p. m., from west, heavy thunder and forked lightning; also at 3.30 p. m. from southwest, lightning zigzag; hail about the size of a pea. 27th, first appearance of chimney swallows. 28th, thunder-storm in the evening from the west; lightning forked.

Tioga, Pennsylvania.—April 19.—Planted field potatoes to-day. 24th, snow on the hills this morning; snow considerable during the forenoon, but melted as it fell. 25th, ground froze this morning two inches deep.

Frederick, Maryland.—Apricots in bloom on the 6th; peach trees on the 15th; and plum trees on the 23d. Frost on the 26th.

Woodlawn, Maryland.—April 10.—Hoar-frost and ice; ploughed ground frozen. 12th, apple trees putting out leaves. 16th, peaches blooming. 17th, cherries blooming. 21st, whippoorwills have come. 22d, pears, plums, and cherries in full bloom. 27th, hoar-frost and thin ice.

Powhatan Hill, King George county, Virginia.—The month of April was boisterous and cold. The weather has been more like that of March. There was ice on the morning of the 10th, fatal to cherries, apricots, plums, and many of the peaches and early apple buds. Pears seem to have resisted the cold. Wheat has improved very much. The continued rains have retarded the planting of corn. The amount of rain in April (3.21 inches) exceeds the aggregate of February and March.

Wytheville, Virginia.—April 9.—Peach and cherry probably injured by the cold snap; the blooms filled with water; thermometer went down to 21°. 14th, strawberries blooming sparingly, and on the 24th plentifully.

Cabell Court House, West Virginia.—April 14.—Thunder-storm from west; hard thunder with zigzag lightning; it passed to the northeast. 15th, strawberries in bloom. 30th, peaches were all killed in the bud; but few trees bloomed; apple blooms very light.

Atlanta, Georgia.—April 1.—Pear trees in full blossom. 5th, thunder and lightning in the southwest at 7 30 p. m. 6th, apple trees in full blossom. 22d, thunder and lightning all around from 9 to 10 p. m., with copious hail; not very much damage done.

Grenada, Mississippi.—Rain from the 19th to the 22d of April. Great freshet on the 23d; the Yalabusha river higher than for fifteen or twenty years past.

Austin, Texas.—Thunder and lightning on the 2d, 3d, 4th, and 6th. Partial frost on the 8th. Thunder and lightning on the 13th, 15th, 17th, 18th, and 30th. Chuck-will's-widow heard on the 30th the first time.

Clarksville, Tennessee.—April 14.—Rain from 10¼ a. m. to 5 p. m.; a few peals of thunder about 3 p. m. 21st, about 1¼ this a. m. commenced raining; between two and three o'clock several heavy showers; no thunder observed. 22d, rain from 4½ p. m. to 7 p. m.; at the beginning there was a fresh squall of wind from the westward, and a few peals of distant thunder. At 10¼ p. m. a light shower; barometer unusually low.

Chapel Hill, Texas.—April 9.—Frost. 17th, diffuse and forked lightning northeast, from 7 p. m. to 12 p. m. 18th, heavy thunder and rain west, at 5 a. m. 19th, northers with rain at 7.30 a. m, with heavy thunder west during the forenoon. 20th, diffuse lightning east for several hours before day; thermometer at sunrise, 45°.

Chilesburg, Kentucky.—April 9 and 10.—Heavy white frosts. 14th, a thunder-storm passed a few miles northwest at 8 a. m., and a succession of thunder-showers during the day. 21st, a succession of thunder-storms last night, beginning about 2 o'clock and lasting until day. 22d, thunder-storm at 7 p. m. passed to the north, and at 8 p. m. a heavy thunder-storm came up from southwest with showers of pelting rain. 23d, barometer low this morning. 24th, two thunder-storms to-day, one to the north and the other to the south. 26th, a heavy white frost this morning, doing considerable damage to gardens, killing cucumbers, beans, tomatoes, some of the grape shoots, and all tender vegetables that were exposed. 28th, a thunder-storm at 5.25 p. m., with strong wind and hail, doing some damage in blowing down trees and fences. The rain appeared to be almost a sheet of water, but lasted only six minutes.

Taylorsville, Kentucky.—April 7.—Began snowing last night and continued all day. 8th and 9th, considerable frost. 14th, thunder-showers, zigzag lightning, hailstones the size of peas. 24th, light frost. 25th, northwest wind strong all day; cold shower at 11 a. m. 26th, heavy frost, destroyed early vegetables, shoots of grapevines, &c.

Bethel, Ohio.—April 7.—Three inches of snow fell to-day; the deepest snow of the winter. 26th, light frost; plantain slightly frozen. 30th, fruit prospects are not very flattering. The snow of the 7th, the cold which followed, with the frost on the 26th and cold north wind, have caused the plums all to fall, many of

the pears and cherries—perhaps one-half of all; apples are also falling, though not so much as the other fruits; a very few peaches are alive.

Marion, Ohio.—April 10.—The maple in bloom. 20th, pear blossoms and currants show; cherry blossoms full bloom, but few. 28th, blossoms of early apples full bloom. 30th, blossoms of apples generally full bloom.

Saybrook, Ohio.—April 4.—Thermometer at 3 p. m., 83°; eight days ago, at 6 a. m., it was 4°. 5th, thermometer at 11 a. m. 77°; at 9 p. m. 48°. 30th, thermometer at 5 a. m. 32°. This month has been characterized by a number of very warm days, and also by sudden changes The mercury on eight days has been at or above 70° at 2 p. m., and on three or four days the maximum has been above 80°.

Steubenville, Ohio.—Frost on the mornings of the 9th, 10th, 11th, 12th, 26th, and 27th. The rain on the 14th was accompanied by thunder and sheet lightning; the rain on the 27th was accompanied by hailstones somewhat smaller than a pea; no damage done; a little lightning and violent thunder.

Cleveland, Ohio.—April 9.—Temperature 20° at sunrise; very heavy white frost. 16th, temperature 30° at sunrise; white frost. 26th, black frost.

Kelley's Island, Ohio.—April 2.—Quite a heavy thunder-shower between 10.30 and 11.30 a. m. 4th, lights in light-houses this evening, the first time this season. 17th, crocus in blossom. 20th, thunder-shower between 2 and 4 p. m. 21st, note of whippoorwill first heard this day. 26th, hyacinth in blossom. 30th, temperature of lake, 47°.

Urbana, Ohio.—April 9.—Ice one-third of an inch thick. 23d, one inch of snow. 26th, white frost; ice one-tenth of an inch thick. 27th, 29th, 30th, white frost.

New Lisbon, Ohio.—April 2.—Martins came last night. 7th, three-quarters of an inch of snow. 10th, 12th, hard frost. 14th, heavy rain from 5 to 6.30 p. m., with thunder and lightning; tree struck south, near town, and set on fire. 23d, rain and terrible snow-storm; the lowest barometer ever recorded here. 26th, 27th, hard frost; fruit and vegetation injured some. 30th, frost.

Kingston, Ohio—April 7.—One inch of snow fell last night and to-day. 8th, the ground was a little frozen this morning. 14th, thunder-shower in the forenoon, and another at 6 p. m. 26th, 27th, frost, not very severe.

Hillsboro, Ohio.—April 7.—Snow two or three inches deep this morning. 13th, early cherries in bloom. 18th, peach and pear blossoms out. 19th, apple and plum blossoms out. 26th, frost, but not enough to injure fruit. 30th, prospect of fruit good, except peaches.

Homestead, Michigan.—April 3.—Robins and crows heard the first time. 9th, pigeons seen; first maple sirup brought in. 30th. The sugar season has been short, and began so late that little has been made. The spring is late and ground dry, as there has been but little rain since the snow went off.

Thunder Bay Island, Michigan.—April 6.—Lake Huron appears full of ice; boys out skating. 12th, kingfisher and oriole here. 16th, ice made last night on the lake. 21st, first vessel of the season from Saginaw; mail-carriers report ice five feet thick in Mackinaw straits. 25th, froze a quarter of an inch last night. 27th, first propeller passed up the lake.

Veray, Indiana.—April 10.—Heavy frost last night. 14th, three thunder-storms of a mild character passed over at 7 a. m. 20th, forked lightning south at 11 p. m. 21st, at noon, thunder-storm and heavy rain from the southwest. 22d, heavy thunder-storm from the southwest at 7 p. m.; intensely brilliant lightning of a dark cornelian color. 29th, heavy white frost last night; on a close examination the peaches are found to be entirely destroyed. The seedlings alone promise to do well. All grafted fruit has suffered from the severity of the winter. Much of the wheat in the county is dead, and most of the farmers have ploughed it up and substituted other crops.

Balbec, Indiana.—April 13.—Frost. 23d, ice an eighth of an inch thick.

26th, thin ice over standing water. 28th, first apple blossoms; the prospect for apples is very good. 29th, frost.

Marengo, Illinois.—April 6.—Commenced ploughing, which is fourteen days later than in 1865, seven days later than in 1864, and one month later than in 1860. 22d, light frost. 26th, heavy frost; ice thick as window glass.

Augusta, Illinois.—April 5.—Gooseberry leafing out. 21st, plum, pear, and cherry in blossom.

Manchester, Illinois.—April 3.—Thunder about 8 p. m. from the west. 14th, thunder during last night from north to west from 10 p. m. to 1 a. m. 23d, thunder from northwest, with rain and hail, about 5 p. m.

Galesburg, Illinois.—The month has been cold and backward. 30th, fruit trees are now coming into blossom.

Riley, Illinois.—April has been seven-eighths of a degree warmer than the mean of twelve years, yet the season is cold and backward; about two weeks later than usual. There has been over an inch less rain than the mean of eleven years.

Tiskilwa, Illinois.—April 30.—Fruit trees were dug in the nursery the 9th of this month on ground sloping to the south; frost not out so as to dig where it slopes a little to the north. This was the shortest season for selling trees the observer has known during the fifteen years he has been in the business. The spring was very cool and late until about the middle of April, when it turned very warm and everything started very fast, and the season appears now to be as forward as common. The prospect for a crop of apples was never better, also for cherries and pears. Peach trees seem to be nearly dead. Plums are blooming well.

Mount Sterling, Illinois.—April 3.—Distant thunder and lightning between 8 and 9 p. m. 14th, a short thunder-storm last night, and also between five and six o'clock this morning. 23d, pretty severe thunder-storm without rain between 4 and 6 o'clock p. m. 30th, a heavy thunder-storm with violent wind and rain between 9 and 10 p. m.

Laomi, Illinois.—April 9.—Last frost in the month. 21st, first blossom of the red bud. 23d, cherry trees in blossom. 25th, early apple trees in blossom. 29th, hickory, sugar-maple, and red elm putting out leaves. No peach blossoms this year.

Sandwich, Illinois.—April has been dry, and as warm as common. The sowing of wheat and oats was accomplished in better manner than is usual. The soil was in fine condition during the latter half of the month. On the whole the spring is at least fifteen days late.

Harrisonville, Missouri.—April 3.—Thunder and diffuse and zigzag lightning from 5 to 6 a. m. 5th, ice this morning on still water, in some places an eighth of an inch thick. 13th, heavy thunder with rain and some hail from 9 p. m. till after midnight. Thunder-storms also on the 14th, 18th, 22d, and 30th.

Athens, Missouri.—There was but little frost in April. Vegetation is backward; fruit of all kinds shows a favorable prospect except peaches, which have failed to blossom, owing to the excessive cold of the winter. Fall wheat on the prairie is generally killed; other cereals promise well. Farmers have made good progress in spring work.

Manitowoc, Wisconsin.—April 3.—Snow is gone; swallows and robins here. 14th, Manitowoc river open; very high water; bridges and mill-dams destroyed.

Milwaukee, Wisconsin.—April 2.—Very heavy rain with thunder and lightning; ice left the Milwaukee river; great flood. 4th, dam across the river gave way. 26th, white frost; ice a quarter of an inch thick. 29th, first arrival through the straits of Mackinaw, (the Montgomery.)

Plymouth, Wisconsin.—April 2.—Heavy thunder-storm from a little after midnight to 4 a. m. this morning; direction the same as is taken by nine thunder-storms out of ten, which is as follows: they appear in the W. N. W., break them-

selves on some hills several hundred feet high about four miles west from here, called the Potash Kettles, and then turn partly to the south and partly to the north, joining again in the east before reaching the borders of Lake Michigan, fourteen miles distant.

Weyauwega, Wisconsin.—April 1.—Snow commenced at 1. 20 p. m., fell about two hours, and then gradually changed to rain, which continued till 8. 45. The snow melted as fast as it fell. 2d, sleighing yet, though not very good. 3d, robins and house martins were seen, the first of the spring. 27th, steamboat on Wolf river (two miles distant) made the first trip of the season to-day.

Embarrass, Wisconsin.—April 11.—Embarrass river open to-day. Wolf river still closed. 15th, Wolf river open to-day; it usually opens some days before Embarrass river, but this year it opened last.

Waupacca, Wisconsin.—April 8.—First robin appeared. 9th, ice went out of Wolf river. 14th, great freshet, much damage done; Waupacca river two feet above high water. 18th, ice out of Waupacca lake. 23d, first steamboat went up the Wolf river. 30th, a cold backward spring thus far.

Baraboo, Wisconsin.—April 20.—Fruit-tree planting going on rapidly. 22d, frost fully out of the ground; grass finely started, and the buds of the forest trees begin to open; prospect good for a large crop of fruit.

Geneva, Wisconsin.—April 2.—First thunder and lightning, diffuse in southeast; frost not yet out of the ground. 9th, first ploughing done. 16th, Geneva lake opened. 30th, thunder and lightning; everything very backward for the season.

Rocky Run, Wisconsin.—April 2.—Thunder-storm from 11.30 last night to 7.30 this morning, doing a great deal of damage to roads, bridges, mills and dams. This is the most severe freshet that has been known for the last eighteen years in this section.

Forest City, Minnesota.—April 1.—Sharp lightning and heavy thunder. 2d, wild geese seen flying over for the first time, going northwest. 5th, slight snow all day, not enough to measure. 10th, two inches of snow fell last night.

New Ulm, Minnesota.—April 4.—Ice breaking up in Minnesota river for the first time since it froze over. 10th, team crossing on Redstone ferry. New Ulm ferry-boat sunk by the ice. 24th, at 4 p. m. a heavy northwest wind set in abruptly, blowing almost a gale.

Sibley, Minnesota.—April 24.—First prairie flowers seen; commenced to sow wheat; the spring is very late and wet. 25th, last frost of the month. 27th, thermometer 89° at half-past 4 p. m., with a gentle breeze from the south. Hearing a roar, the observer looked up southwest and saw a dense cloud of dust and ashes about three and a half miles distant; in a little less than four minutes it arrived; the gale lasted a few minutes and moderated to a very high wind, which continued all night; the thermometer sunk thirty-four degrees in two hours. The ground is frozen three feet; water in the lake three feet six inches. 30th, snow-drifts in cattle yards from two to three feet deep; grass outside of yards, three to four inches high.

St. Paul, Minnesota.—Ground frozen only about three inches by reason of early and continued snow. Mississippi river opened at St. Paul on the 10th; Lake Pepin on the 19th; below Lake Pepin on the 13th.

Afton, Minnesota.—April 9 to 13 rainy. 15th, a heavy thunder-storm passed to the west at 8 p. m. 16th to 21st, rain; on the 21st the first steamboat went through Lake St. Croix. 30th, farmers are just commencing to sow wheat.

Minneapolis, Minnesota.—April 1.—First thunder-shower this year; it was accompanied with some hail. 14th, the ice went out of the Mississippi river at this point at 7 a. m., carrying away a part of the upper bridge, several boom piers, and many logs.

Dubuque, Iowa.—April 1.—Lightning in the north at 9 p. m. The ice in the river moved off to-day; it had moved several times during the past week,

and the ferry-boat made a few crossings in the openings several days ago. 13th, soft maple trees in blossom.

Muscatine, Iowa.—April 12.—Farmers commenced sowing wheat. 15th, martins made their appearance. 26th, grass enough for cattle to live on; wheat all sowed.

Clinton, Iowa.—April 6.—Elms in blossom. 8th, martins first seen. 9th, last frost of the month. 20th, river rising fast; eight feet above low-water mark. 21st, first spring flowers, liverworts and sanguinaria. 27th, thermometer 88½° at 3 p. m. 30th, river eighteen feet above low-water mark of 1859, and still rising. April has been a cold backward month; farmers have their small grain sowed, but have put in no corn yet.

Fort Madison, Iowa.—April 4.—Some snow, but it melted as it fell. 14th, gooseberry bud expands. 27th, plum, apple and cherry in blossom; there are no peach-blossoms this year.

Manchester, Iowa.—April 2.—Spring seems fairly opened, and the most of the summer birds are here; martins, blue birds, robins and a multitude of ducks. 14th, farmers during the last week have been busy putting in spring wheat. 17th, frost near'y all out of the ground. 30th, spring is near fifteen days earlier than last year; the most of the wheat in this section is put in, and the ground was quite dry until to-day's rain.

Independence, Iowa.—April 1.—Distant thunder and a light shower at 9 a. m.; wild geese going north. 2d, cultivated grasses beginning to start; black birds appeared. 5th, ice on standing water an eighth of an inch in thickness formed last night; wild geese returning south; a few flakes of snow fell at 3 p. m. 9th, prairie grass begins to grow. 17th, a thunder-storm came up in the west at 4.30 p. m., a part passing over here. Two miles northeast of Independence a barn was struck by lightning; a man and a pair of horses which he was feeding were instantly killed; his wife and child who were standing near were uninjured; no marks were found upon either the man or horses; the woman only saw a blue light for an instant. White frost on the mornings of the 22d, 24th, and 29th.

Waterloo, Iowa.—April 18.—First prairie flowers. 28th, first strawberry blossoms. This spring is full eighteen days earlier than the spring of 1865. Fruit trees and all outstanding shrubbery stood the winter better than the observer has known it in this locality for the past nine years.

Osage, Iowa.—April 1.—Thunder-storm at 9 p. m.; frequent rain during the night. 2d, ice leaves the river; water very high, sweeping away bridges, dams, and mills. 9th, one inch of snow fell. 16th, thunder-storm at 7 a. m., north and south. 17th, frequent thunder-showers.

Iowa Falls, Iowa.—April 1.—Thunder to the northeast this morning; large flocks going north. 2d, blackbirds, meadow larks, martins, cranes, geese, ducks, snipes, and hundreds of small birds appeared. The river broke up to-day; ice about eighteen inches thick, tore out part of Iowa Falls mill-dam and abutment. 3d, fire on the prairie all around. Commenced to sow wheat, ground in fine order, thawed one foot deep; the frost penetrated from three feet to three feet and a half. 4th, geese, swans, cranes, and other birds going south. 5th, birds still going in large flocks. 18th, brants first seen. 24th and 29th, white frost. 30th, thunder-showers all the afternoon.

Ceres, Iowa.—April 2.—Wild geese going north. 4th, wild geese going southeast.

Avon, Kansas.—April 14.—Thunder-storm from northwest at 1 a. m., with hail of about one ounce in weight; a strong gale from the northwest during the rain, covering a belt five miles wide; hail somewhat heavier a few miles east. 18th and 19th, twenty-six hours steady and slow rain. 24th, light frost in low places; perhaps last this spring; later is not common. 30th, this

month would have been fine for farming operations but for the great amount of rain during March, rendering the ground wet and cold this month.

Lecompton, Kansas.—April 3.—Between 1 and 5 o'clock a. m. a thunder-shower passed over in an easterly direction. 5th, water froze in still places on streams last night; the ground also froze half an inch in open places. 13th, light frost last night; the ground did not freeze. 15th, thunder-storm last night from the west. 21st and 24th, a light frost on both these mornings, which did little or no damage.

Council Grove, Kansas.—April 5, 6, 7.—Froze slightly on each of these mornings. 21st, white frost this morning. 23d, dew the first time this month.

Leavenworth, Kansas.—April 3.—Thunder-storm at 3 a. m. from the south-west continued one hour; lightning diffuse, considerable wind, but very little rain. 6th, hard white frost. 13th, white frost; heavy thunder-storm went south at 9 p. m. with high wind; lightning here all night. 17th, lilac in bloom; Siberian crab in foliage, red bud commencing to bloom, 21st, pear, Siberian apple, Judas tree, Missouri currant, June berry, wild plum and wild gooseberry in full bloom.

Glendale, Nebraska.—April 2.—An unusually warm day for the season; maximum at 2.30 p. m. 92°; during the whole day a high wind from the south. 3d, prairie grass starting in favorable locations. 14th, thermometer at 5 a. m. 26°. 19th, there have been twenty-eight hours rain and only half an inch of water fell. It is characteristic of the storms this spring that they have been long and tedious and yielded but a small amount of water.

Elkhorn City, Nebraska.—April 1.—Blue-grass starting. 2d, frost out of the ground ten inches below the surface. 3d, green grass starting generally over the prairies. 4th, frost all out of the ground in places not sheltered; fine snow for a few minutes after 9 p. m. 6th, heavy white frost. 12th, heavy rain last night. 14th, white frost; soft maple and red elm blooming. 21st, lilac leafing. 30th, the month has been above the average warmth, but very windy, cloudy, and somewhat wet. Spring wheat was generally sown through the first three weeks, oats and barley in the last. Pasture is yet scant, though it has been generally ranging for ten days past or more.